

# SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: BRIAN MARK Examiner #: 76173 Date: 9/9/04  
 Art Unit: 1751 Phone Number ~~30~~ 272-1321 Serial Number: 10/625,910  
 Mail Box and Bldg/Room Location: REM 9445 Results Format Preferred (circle) PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*  
 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: ANIONIC SURFACTANTS

Inventors (please provide full names): 1) JOHNNY DENNIS GRADE  
2) TREVOR BLEASE

SCIENTIFIC REFERENCE BR  
 Sci & Tech. Info. Cntr

Earliest Priority Filing Date: JANUARY 24, 2001

SEP 9

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number. Pat. & T.M. Office

PLEASE SEARCH THE STRUCTURE OF  
 THE ATTACHED CLAIM 1.

- THANKS

\*\*\*\*\*

## STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>EA</u>	NA Sequence (#) _____	STN _____
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Date Completed: <u>9-16-04</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: _____	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: _____	Other _____	Other (specify) _____

=> file reg

FILE 'REGISTRY' ENTERED AT 14:33:02 ON 16 SEP 2004  
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FILE 'LREGISTRY' ENTERED AT 12:13:11 ON 16 SEP 2004

L1 STR  
L2 STR L1

FILE 'HCAPLUS' ENTERED AT 12:26:14 ON 16 SEP 2004

L3 167 SEA GRADE ?/AU  
L4 86 SEA BLEASE ?/AU  
L5 9 SEA L3 AND L4  
D L5 1-9 TI  
SEL L5 1-9 RN

FILE 'REGISTRY' ENTERED AT 12:28:46 ON 16 SEP 2004

L6 32 SEA (25067-01-0/BI OR 25377-73-5/BI OR 27274-31-3/BI OR  
L7 127110 SEA C2H4O OR C3H6O  
L8 8 SEA L6 AND L7

FILE 'HCAPLUS' ENTERED AT 12:37:33 ON 16 SEP 2004  
SEL L5 4 RN

FILE 'REGISTRY' ENTERED AT 12:37:52 ON 16 SEP 2004

L9 6 SEA (25377-73-5/BI OR 27274-31-3/BI OR 7631-90-5/BI OR  
25067-01-0/BI OR 67-63-0/BI OR 99593-14-3/BI)  
L10 1 SEA 7631-90-5  
E SULFUROUS ACID, MONOLITHIUM SALT/CN  
L11 1 SEA "SULFUROUS ACID, MONOLITHIUM SALT"/CN  
E SULFUROUS ACID, MONOPOTASSIUM SALT/CN  
L12 1 SEA "SULFUROUS ACID, MONOPOTASSIUM SALT"/CN  
E SODIUM BIPHOSPHITE/CN  
E SODIUM PHOSPHITE/CN  
L13 1 SEA "SODIUM PHOSPHITE (NAH2PO3)"/CN  
E PHOSPHONOUS ACID, MONOSODIUM SALT/CN  
E PHOSPHONIC ACID, MONOLITHIUM SALT/CN  
L14 1 SEA "PHOSPHONIC ACID, MONOLITHIUM SALT"/CN  
E PHOSPHONIC ACID, MONOPOTASSIUM SALT/CN  
L15 1 SEA "PHOSPHONIC ACID, MONOPOTASSIUM SALT"/CN  
L16 6 SEA (L10 OR L11 OR L12 OR L13 OR L14 OR L15)  
L17 1048 SEA (LI OR NA OR K)/ELS (L) H/ELS (L) (S OR P)/ELS (L)  
O/ELS (L) 4/ELC.SUB

L18 61 SEA L17 AND (?SULFITE? OR ?PHOSPHITE?)/CNS  
L19 61 SEA L16 OR L18

FILE 'HCA' ENTERED AT 13:30:07 ON 16 SEP 2004  
L20 64261 SEA L19 OR (LITHIUM# OR LI OR SODIUM# OR NA OR POTASSIUM#  
OR K) (2A) (SULFITE# OR BISULFITE# OR PHOSPHITE# OR  
ORTHOPHOSPHITE# OR BIPHOSPHITE#) OR LI2SO3 OR NA2SO3 OR  
K2SO3 OR LIHSO3 OR NAHSO3 OR KHSO3 OR LIHPO3 OR NAHPO3  
OR KHPO3 OR LIH!PO3 OR NAH!PO3 OR KH!2PO3 OR LI3PO3 OR  
NA3PO3 OR K3PO3

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L21 1 SEA 27274-31-3  
E (C3H6O)NC3H6O/MF  
L22 5 SEA "(C3H6O)NC3H6O"/MF  
L23 3 SEA L22 AND ?PROPENYL?/CNS  
D L23 1-3 RN STR  
L24 1 SEA 9042-19-7  
L25 2 SEA L21 OR L24

FILE 'HCA' ENTERED AT 13:33:13 ON 16 SEP 2004  
L26 427 SEA L25  
L27 7 SEA L26 AND L20  
L28 1 SEA L27 AND ?SUCCIN?

FILE 'LREGISTRY' ENTERED AT 13:34:40 ON 16 SEP 2004  
L29 STR

FILE 'REGISTRY' ENTERED AT 13:37:17 ON 16 SEP 2004  
L30 36 SEA SSS SAM L29  
L31 STR L29  
L32 7 SEA SSS SAM L31  
L33 SCR 1945  
L34 4 SEA SSS SAM L31 AND L33  
L35 2437 SEA SSS FUL L31 AND L33  
SAV L35 MRU910/A  
SEL L25 1-2 RN  
EDIT E1-E2 /BI /CRN  
L36 529 SEA (27274-31-3/CRN OR 9042-19-7/CRN)  
L37 0 SEA L35 AND L36

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L38 2606 SEA L35  
L39 5 SEA L38 AND L26  
L40 1 SEA L39 AND L20  
L41 34 SEA L38 AND L20  
L42 183959 SEA POLYETHER# OR POLYOXYALKYL? OR POLYOXYETHYL? OR  
POLYOXYPROPYL?

L43 0 SEA L41 AND L42  
L44 126022 SEA (POLYGLYCOL# OR (POLYALKYLENE# OR POLYETHYLENE# OR  
POLYPROPYLENE# OR POLYBUTYLENE# OR POLYISOBUTYLENE#) (2A) (GLYCOL# OR OXIDE#) OR (ETHYLENE# OR PROPYLENE# OR BUTYLENE# OR ISOBUTYLENE#) (2A) (POLYOXIDE# OR POLY(W) OXIDE #)) /BI,AB  
L45 122637 SEA (POLYOXYALKYLENE# OR POLYOXYETHYLENE# OR POLYOXYPROPYLENE# OR POLYOXYBUTYLENE# OR POLYOXYISOBUTYLENE# OR POLY(W) (GLYCOL# OR OXYALKYLENE# OR OXYETHYLENE# OR OXYPROPYLENE# OR OXYBUTYLENE# OR OXYISOBUTYLENE#)) /BI,AB  
L46 43748 SEA (POLYOXY(W) (ALKYLENE# OR ETHYLENE# OR PROPYLENE# OR BUTYLENE# OR ISOBUTYLENE#) OR PEG OR PPG OR PBG OR ALCOX# OR BREOX# OR CARBOWAX# OR EMKAPOL# OR LUTROL# OR MACROGOL# OR PEO OR PLURACOL# OR PLURIOL# OR POLIKOL# OR POLYOX#) /BI,AB  
L47 4357 SEA (SUPEROX# OR TENZILIN# OR ADEKA# OR ARCOL# OR EXCENOL# OR LAPROL# OR NIAX# OR PROPYLAN# OR SANNIX# OR VORANOL#) /BI,AB  
L48 2 SEA L41 AND ((L44 OR L45 OR L46 OR L47))  
L49 400596 SEA (SURFACT? OR BIOSURFACT? OR HYDROTROP? OR DETERG? OR ABSTERG? OR (SURFACE(W) ACTIVE# OR WETTING#) (A) (AGENT? OR ADDITIVE? OR COMPOUND? OR COMPD# OR CMPD# OR CPD#) OR EMULSIFIER? OR DISPERSANT? OR SOAP?) /BI,AB  
L50 4 SEA L41 AND L49  
  
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L51 7 SEA SSS SAM L1 OR L2  
  
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L52 417256 SEA L7  
L53 649 SEA L38 AND L52  
  
FILE 'REGISTRY' ENTERED AT 14:15:34 ON 16 SEP 2004  
L54 198 SEA L35 AND L7  
L55 0 SEA L54 AND (?SULFIT? OR ?PHOSPHIT?) /CNS  
  
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L56 2 SEA L53 AND L20  
  
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L57 245 SEA SSS FUL L1 OR L2  
SAV L57 MRU910A/A  
  
FILE 'HCA' ENTERED AT 14:18:53 ON 16 SEP 2004  
L58 67 SEA L57  
L59 1 SEA L58 AND L20  
L60 1 SEA L58 AND (?SULFIT? OR ?PHOSPHIT?)  
L61 20 SEA L58 AND L49

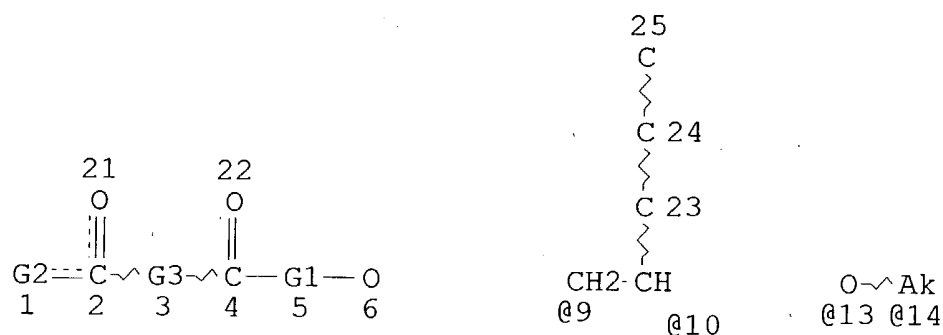
L62 QUE ANION? OR ?SULFON? OR ?PHOSPHON? OR SO3H OR PO3H2  
 L63 9 SEA L61 AND L62

FILE 'REGISTRY' ENTERED AT 14:26:41 ON 16 SEP 2004  
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 D L64 1-11 RN STR  
 SEL L64 10,11 RN  
 L65 2 SEA (102832-46-2/BI OR 102832-47-3/BI)

FILE 'HCA' ENTERED AT 14:29:55 ON 16 SEP 2004  
 L66 1 SEA L65  
 L67 11 SEA L28 OR L39 OR L40 OR L48 OR L50 OR L56 OR L59 OR L60  
 OR L66  
 L68 13 SEA (L27 OR L63) NOT L67  
 L69 11 SEA L61 NOT (L67 OR L68)  
 L70 11 SEA L67 AND (1900-2001/PY OR 1900-2001/PRY)  
 L71 13 SEA L68 AND (1900-2001/PY OR 1900-2001/PRY)  
 L72 11 SEA L69 AND (1900-2001/PY OR 1900-2001/PRY)

FILE 'REGISTRY' ENTERED AT 14:33:02 ON 16 SEP 2004

=> d 157 que stat  
 L1 STR



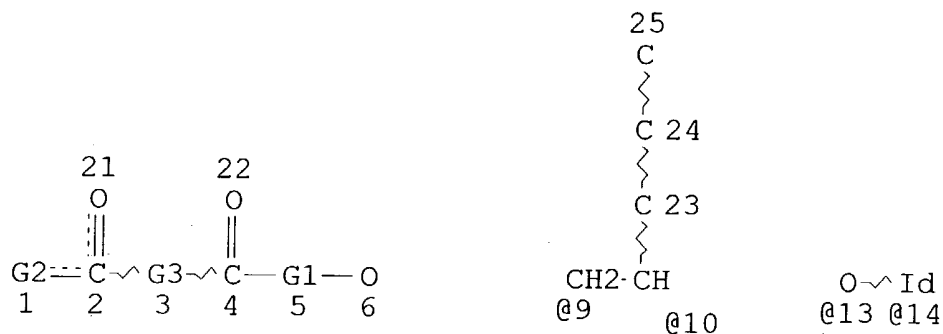
REP G1=(1-10) 13-4 14-6  
 VAR G2=N/O  
 VAR G3=9-2 10-4/10-2 9-4  
 NODE ATTRIBUTES:  
 CONNECT IS E2 RC AT 14  
 DEFAULT MLEVEL IS ATOM  
 GGCAT IS SAT AT 14  
 DEFAULT ECLEVEL IS LIMITED  
 ECOUNT IS M2-X3 C AT 14

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE

L2 STR



REP G1=(1-10) 13-4 14-6  
 VAR G2=N/O  
 VAR G3=9-2 10-4/10-2 9-4  
 NODE ATTRIBUTES:  
 CONNECT IS E2 RC AT 14  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

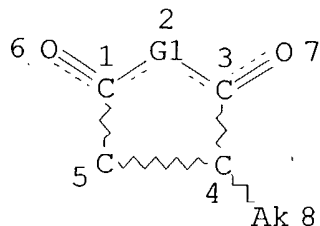
GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE  
 L57 245 SEA FILE=REGISTRY SSS FUL L1 OR L2

100.0% PROCESSED 55815 ITERATIONS  
 SEARCH TIME: 00.00.03

245 ANSWERS

=> d 135 que stat  
 L31 STR



VAR G1=N/O

## NODE ATTRIBUTES:

CONNECT IS E1 RC AT 8  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED  
ECOUNT IS M6 C AT 8

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 8

## STEREO ATTRIBUTES: NONE

L33 SCR 1945

L35 2437 SEA FILE=REGISTRY SSS FUL L31 AND L33

100.0% PROCESSED 377860 ITERATIONS  
SEARCH TIME: 00.00.06

2437 ANSWERS

=&gt; file hca

FILE 'HCA' ENTERED AT 14:33:45 ON 16 SEP 2004

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=&gt; d 167 1-11 cbib abs hitstr hitind

L67 ANSWER 1 OF 11 HCA COPYRIGHT 2004 ACS on STN

137:125531 Anionic **surfactants** for emulsion radical

polymerization. Grade, Johny Denis; Blease, Trevor (Imperial Chemical Industries PLC, UK). PCT Int. Appl. WO 2002059159 A1 20020801, 21 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2002-GB133 20020114. PRIORITY: GB 2001-1771 20010124.

AB An anionic **surfactant** of the formula

R2YC:(O)(HR)CC(HR1)C:(O)(OA)nX wherein one of R and R1 = C6-22 linear or branched alkyl or alkenyl, and the other is H; Y = O, NH, NH-CH2C(:CH2), or N(CH2CR3(:CH2))CH2C(:CH2) where R3 = H or methyl; when Y = O, R2 = H, salt, C1-6 linear or branched alkyl, or

*→ applicant*

optionally substituted C3-10 linear or branched alkenyl; when Y = NH, NHCH<sub>2</sub>C(:CH<sub>2</sub>), or N(CH<sub>2</sub>CR<sub>3</sub>(:CH<sub>2</sub>))CH<sub>2</sub>C(:CH<sub>2</sub>) where R<sub>2</sub>, R<sub>3</sub> = H or Me; OA = oxyalkylene group; n = 2-100; and X = group comprising at least one acidic hydrogen atom, or a salt thereof, and the use thereof in free radical initiated addn. polymn., particularly emulsion polymn.

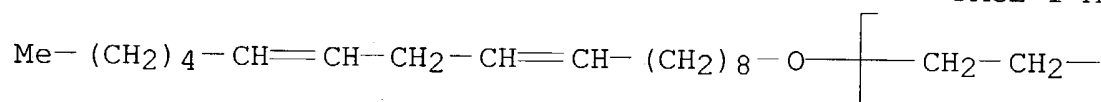
IT 99593-14-3

(anionic **surfactants** for emulsion radical polymn.)

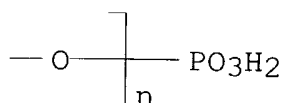
RN 99593-14-3 HCA

CN Poly(oxy-1,2-ethanediyl), α-phosphono-ω-[(9Z,12Z)-9,12-octadecadienyloxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IT 7631-90-5, **Sodium bisulfite**

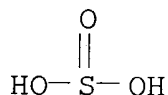
25377-73-5, Dodecenyl **succinic** anhydride

27274-31-3

(anionic **surfactants** for emulsion radical polymn.)

RN 7631-90-5 HCA

CN Sulfurous acid, monosodium salt (8CI, 9CI) (CA INDEX NAME)



● Na

RN 25377-73-5 HCA

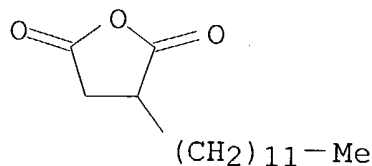
CN 2,5-Furandione, 3-(dodecenyl)dihydro- (9CI) (CA INDEX NAME)

CM 1

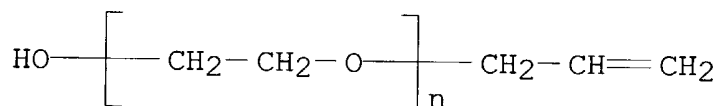
CRN 2561-85-5



CMF C16 H28 O3



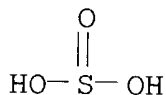
RN 27274-31-3 HCA

CN Poly(oxy-1,2-ethanediyl), α-2-propenyl-ω-hydroxy- (9CI)  
(CA INDEX NAME)

IT 7631-90-5DP, Sodium bisulfite, reaction products with **polyethylene glycol** allyl ether and dodecenyl **succinic** anhydride 25377-73-5DP, Dodecenyl **succinic** anhydride, reaction products with **sodium bisulfite** and **polyethylene glycol** allyl ether 27274-31-3DP, reaction products with **sodium bisulfite** and dodecenyl **succinic** anhydride  
(**surfactant**; anionic **surfactants** for emulsion radical polymn.)

RN 7631-90-5 HCA

CN Sulfurous acid, monosodium salt (8CI, 9CI) (CA INDEX NAME)



● Na

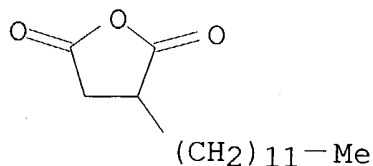
RN 25377-73-5 HCA

CN 2,5-Furandione, 3-(dodecenyl)dihydro- (9CI) (CA INDEX NAME)

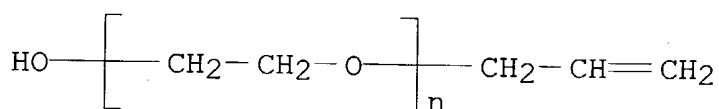
CM 1

CRN 2561-85-5

CMF C16 H28 O3



RN 27274-31-3 HCA  
 CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -2-propenyl- $\omega$ -hydroxy- (9CI)  
 (CA INDEX NAME)



IC ICM C08F002-26  
 ICS C08F290-06; C08F290-14  
 CC 35-3 (Chemistry of Synthetic High Polymers)  
 ST anionic **surfactant** emulsion radical polymn catalyst  
 IT Plastic films  
 (anionic **surfactants** for emulsion radical polymn.)  
 IT **Surfactants**  
 (anionic; anionic **surfactants** for emulsion radical polymn.)  
 IT Polymerization  
 (emulsion, radical; anionic **surfactants** for emulsion radical polymn.)  
 IT **Surfactants**  
 (nonionic; anionic **surfactants** for emulsion radical polymn.)  
 IT 99593-14-3  
 (anionic **surfactants** for emulsion radical polymn.)  
 IT 67-63-0, Propan-2-ol, reactions 7631-90-5, Sodium bisulfite 25377-73-5, Dodecenyl succinic anhydride 27274-31-3  
 (anionic **surfactants** for emulsion radical polymn.)  
 IT 25067-01-0P, Butyl acrylate-vinyl acetate copolymer  
 (latex; anionic **surfactants** for emulsion radical polymn.)  
 IT 7631-90-5DP, Sodium bisulfite, reaction products with polyethylene glycol allyl ether and dodecenyl succinic anhydride 25377-73-5DP, Dodecenyl succinic anhydride, reaction products with sodium bisulfite and polyethylene glycol allyl ether 27274-31-3DP, reaction products with sodium bisulfite and dodecenyl succinic anhydride

(surfactant; anionic surfactants for emulsion radical polymn.)

L67 ANSWER 2 OF 11 HCA COPYRIGHT 2004 ACS on STN

131:32665 Polyester polyurethane flexible slabstock foam made using reduced emission surfactant. Frey, John Herbert; Battice, David Robert; Muha, Krunoslav; Petroff, Lenin James (Air Products and Chemicals, Inc., USA). U.S. US(5908871 A) 19990601, 6 pp., Cont. of U.S. Ser. No. 7,594. (English). CODEN: USXXAM. APPLICATION: US 1998-126239 19980730. PRIORITY: US 1998-7594 19980115.

AB In a method for prep. a polyester polyurethane flexible slabstock foam by reacting an org. polyisocyanate with a polyester polyol in the presence of urethane catalyst, water as a blowing agent and a silicone surfactant, the silicone surfactant comprises the reaction product of 1,1,1,3,5,5,5-hepta(hydrocarbyl)trisiloxane coupled with polyalkyleneoxide mono allyl ether and capped with a succinic anhydride.

IT **25377-73-5DP**, Dodecenyl succinic anhydride, reaction products with 1,1,1,3,5,5,5-heptamethyltrisiloxane-dodecaethyleneoxide monoallyl ether adducts **27274-31-3DP**, Polyethylene glycol monoallyl ether, reaction products with 1,1,1,3,5,5,5-Heptamethyltrisiloxane, dodecenyl succinic anhydride-capped  
(polyester polyurethane flexible slabstock foam made using reduced emission surfactant)

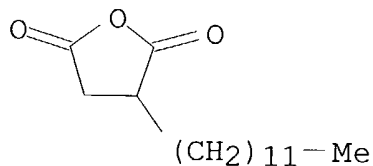
RN 25377-73-5 HCA

CN 2,5-Furandione, 3-(dodecenyl)dihydro- (9CI) (CA INDEX NAME)

CM 1

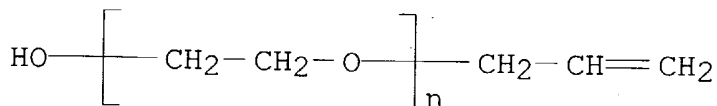
CRN 2561-85-5

CMF C16 H28 O3

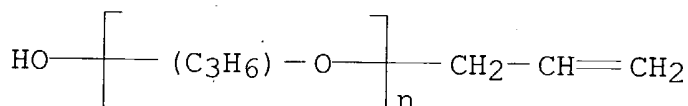


RN 27274-31-3 HCA

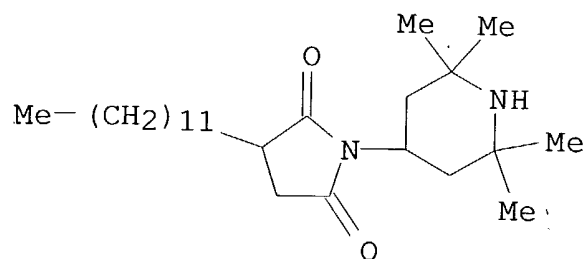
CN Poly(oxy-1,2-ethanediyl), α-2-propenyl-ω-hydroxy- (9CI)  
(CA INDEX NAME)



- IC ICM C08G018-00  
ICS C08G018-34  
NCL 521112000  
CC 38-2 (Plastics Fabrication and Uses)  
IT 1873-88-7DP, 1,1,1,3,5,5,5-Heptamethyltrisiloxane, reaction products with dodecaethyleneoxide monoallyl ether, dodecenyl succinic anhydride-capped **25377-73-5DP**, Dodecenyl succinic anhydride, reaction products with 1,1,1,3,5,5,5-heptamethyltrisiloxane-dodecaethyleneoxide monoallyl ether adducts **27274-31-3DP**, Polyethylene glycol monoallyl ether, reaction products with 1,1,1,3,5,5,5-Heptamethyltrisiloxane, dodecenyl succinic anhydride-capped  
(polyester polyurethane flexible slabstock foam made using reduced emission surfactant)
- L67 ANSWER 3 OF 11 HCA COPYRIGHT 2004 ACS on STN  
129:73997 Method of generating simulated photographic-quality prints on luminescent melt-formed backing substrates. Malhotra, Shadi L. (Xerox Corp., USA). U.S. US 5759734 A 19980602, 14 pp. (English). CODEN: USXXAM. APPLICATION: US 1997-787503 19970121.
- AB Disclosed is a method of creating simulated photog.-quality prints using non-photog. imaging including the steps of (a) providing a coated transparent substrate having a toner image formed on the first coating thereon using a non-photog. imaging process, (b) providing the surface of a backing member derived from a compn. that can be melt formed and extruded into a self-supporting film and comprised of a blend consisting of (1) a thermoplastic polymer, (2) a fluorescent brightener (3) plasticizers having a m.p. of less than 75°, (4) a lightfastness-inducing agent, (5) an antistatic agent, and (6) a filler, melt formed and extruded into a self-supporting film, and (c) adhering the substrates to each other.
- IT **9042-19-7 79720-19-7 106917-30-0**  
**106917-31-1**  
(electrostatog. copying materials for simulated photog.-quality print prodn. contg.)
- RN 9042-19-7 HCA  
CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha$ -2-propenyl- $\omega$ -hydroxy-  
(9CI) (CA INDEX NAME)

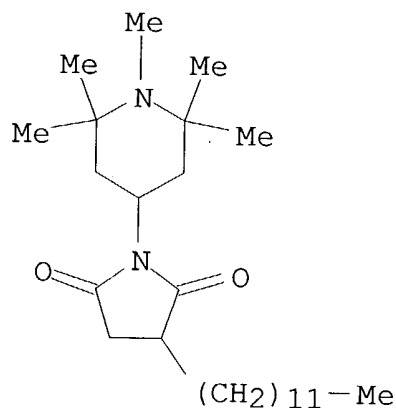


- RN 79720-19-7 HCA  
CN 2,5-Pyrrolidinedione, 3-dodecyl-1-(2,2,6,6-tetramethyl-4-piperidiny)- (9CI) (CA INDEX NAME)



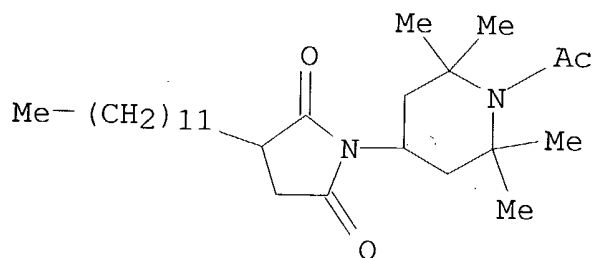
RN 106917-30-0 HCA

CN 2,5-Pyrrolidinedione, 3-dodecyl-1-(1,2,2,6,6-pentamethyl-4-piperidiny)- (9CI) (CA INDEX NAME)



RN 106917-31-1 HCA

CN Piperidine, 1-acetyl-4-(3-dodecyl-2,5-dioxo-1-pyrrolidinyl)-2,2,6,6-tetramethyl- (9CI) (CA INDEX NAME)



IC ICM G03G013-01

ICS B44C001-165

NCL 430124000

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 93-15-2, 4-Allyl-1,2-dimethoxybenzene 108-31-6D, 2,5-Furandione, reaction products with polyolefins, uses 112-29-8, 1-Bromodecane 112-92-5, 1-Octadecanol 140-67-0, 4-Allylanisole 300-57-2, Allylbenzene 580-13-2, 2-Bromonaphthalene 589-09-3, N-Allylaniline 589-15-1, 4-Bromobenzyl bromide 593-45-3, Octadecane 593-49-7, Heptacosane 629-99-2, Pentacosane 630-02-4, Octacosane 638-67-5, Tricosane 638-68-6, Triacontane 646-31-1, Tetracosane 873-75-6, 4-Bromobenzyl alcohol 1118-84-9, Allyl acetoacetate 1457-47-2, 3-Allylrhodanine 1611-56-9, 11-Bromo-1-undecanol 1745-81-9, 2-Allylphenol 1746-13-0, Allyl phenyl ether 1843-05-6, 2-Hydroxy-4-(octyloxy)benzophenone 2741-38-0, Allyldiphenylphosphine 2834-05-1 3344-77-2, 12-Bromo-1-dodecanol 5411-56-3, 2-Bromo- $\alpha$ -methylbenzyl alcohol 9002-88-4 9002-88-4D, maleated 9003-07-0, Polypropylene 9003-07-0D, Polypropylene, maleated 9003-09-2, Poly(methyl vinyl ether) 9003-17-2D, Polybutadiene, carboxy-terminated 9003-17-2D, Polybutadiene, phenyl-terminated 9003-20-7, Poly(vinyl acetate) 9003-27-4, Poly(isobutylene) 9003-28-5, Poly(1-butene) 9003-31-0, Polyisoprene 9003-44-5, Poly(isobutyl vinyl ether) 9003-95-6, Poly(vinyl stearate) 9010-77-9, Acrylic acid-ethylene copolymer 9010-79-1, Ethylene-propylene copolymer 9010-85-9, Isobutylene-isoprene copolymer 9010-86-0, Ethyl acrylate-ethylene copolymer 9010-98-4, Polychloroprene 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 9042-19-7 16212-05-8, Allyl phenyl sulfone 16432-81-8 18263-25-7, 2-Bromohexadecanoic acid 24936-97-8, Poly(1,4-butylene adipate) 24937-05-1, Poly(ethylene adipate) 24937-78-8D, Ethylene-vinyl acetate copolymer, maleated 24938-37-2 25035-78-3, Poly(diallyl isophthalate) 25035-84-1, Poly(vinyl propionate) 25052-62-4, Carbon monoxide-ethylene copolymer 25053-15-0, Poly(diallyl phthalate) 25053-53-6, Ethylene-methacrylic acid copolymer 25087-34-7 25103-74-6, Ethylene-methyl acrylate copolymer 25103-87-1, Poly(1,4-butylene adipate) 25266-02-8, Maleic anhydride-1-octadecene copolymer 25569-53-3, Poly(ethylene succinate) 25608-26-8, Ethylene-methacrylic acid copolymer sodium salt 25667-11-2 25750-82-7, Acrylic acid-ethylene copolymer sodium salt 25750-84-9, Butyl acrylate-ethylene copolymer 25805-17-8, Poly(2-ethyl-2-oxazoline) 25895-44-7, 1-Hexene-propylene copolymer 25895-47-0, 1-Butene-ethylene-propylene copolymer 26061-90-5, Ethylene-glycidyl methacrylate copolymer 26337-35-9, Carbon monoxide-ethylene-vinyl acetate copolymer 26375-31-5, Ethylene-methacrylic acid-vinyl acetate copolymer 26715-88-8, Poly(vinyl pivalate) 26760-99-6, Poly(ethylene azelate) 26762-07-2, Poly(ethylene azelate) 27135-20-2, Ethylene-methacrylic acid copolymer lithium salt 27516-89-8 28158-21-6, Poly(trimethylene succinate) 28208-80-2, Acrylic acid-ethylene copolymer zinc salt 28516-43-0,

Ethylene-methacrylic acid copolymer zinc salt 28725-67-9  
 28725-68-0 29160-13-2, 1-Butene-propylene copolymer 29963-76-6,  
 Poly[2-(4-benzoyl-3-hydroxyphenoxy)ethyl acrylate] 36221-42-8,  
 Poly(trimethylene adipate) 36568-42-0 41171-14-6, Ethyl  
 acrylate-ethylene-maleic anhydride copolymer 51541-08-3,  
 Ethylene-glycidyl methacrylate-methyl acrylate copolymer  
 52234-59-0, Poly(trimethylene glutarate) 52256-48-1 53463-68-6,  
 10-Bromo-1-decanol 55611-39-7 57592-88-8, Methyl  
 acrylate-vinylidene fluoride copolymer 60785-11-7 61843-70-7,  
 Butyl acrylate-carbon monoxide-ethylene copolymer 66987-22-2,  
 Poly(vinyl neodecanoate) 67845-93-6, Hexadecyl-3,5-di-tert-butyl  
 4-hydroxybenzoate 73367-80-3 78888-18-3 **79720-19-7**  
 80866-82-6 105729-79-1, Isoprene-styrene block copolymer  
 106107-54-4, Butadiene-styrene block copolymer 106108-28-5,  
 Butylene-ethylene-styrene block copolymer **106917-30-0**  
**106917-31-1** 113187-28-3, Allyldiethyl phosphonoacetate  
 208716-79-4

(electrostatog. copying materials for simulated photog.-quality  
 print prodn. contg.)

L67 ANSWER 4 OF 11 HCA COPYRIGHT 2004 ACS on STN

125:116763 Soy protein-based thermoplastic composition for preparing  
 molded articles. Jane, Jay- Lin; Wang, Shuhuan (Iowa State  
 University Research Foundation, Inc., USA). U.S. US 5523293 A  
 19960604, 11 pp. (English). CODEN: USXXAM. APPLICATION: US  
 1994-248994 19940525.

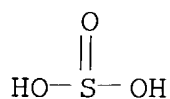
AB The invention provides biodegradable, thermoplastic compns. made of  
 the reaction product of soybean protein and a carbohydrate filler, a  
 reducing agent, a plasticizer, water, and optional additives as  
 desired. The compn. has a high degree of flowability for processing  
 by extrusion and injection molding into solid articles that are  
 biodegradable with a high degree of tensile strength and water  
 resistance.

IT **7631-90-5, Sodium bisulfite**  
**7681-57-4, Sodium pyrosulfite 7773-03-7,**  
**Potassium bisulfite 7775-14-6, Sodium**  
 hydrosulfite **9002-89-5, Polyvinyl alcohol**  
**9003-11-6 10117-38-1, Potassium**  
**sulfite 14293-73-3, Potassium hydrosulfite**  
**16731-55-8, Potassium pyrosulfite 25322-68-3**  
**25322-69-4, Polypropylene glycol**  
**26680-54-6, N-Octenylsuccinic anhydride**

(soy protein-based biodegradable thermoplastic compns. for prep.  
 molded articles)

RN 7631-90-5 HCA

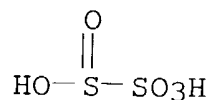
CN Sulfurous acid, monosodium salt (8CI, 9CI) (CA INDEX NAME)



● Na

RN 7681-57-4 HCA

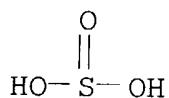
CN Disulfurous acid, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 7773-03-7 HCA

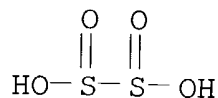
CN Sulfurous acid, monopotassium salt (8CI, 9CI) (CA INDEX NAME)



● K

RN 7775-14-6 HCA

CN Dithionous acid, disodium salt (8CI, 9CI) (CA INDEX NAME)



●2 Na

RN 9002-89-5 HCA

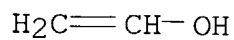
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)



CM 1

CRN 557-75-5

CMF C2 H4 O



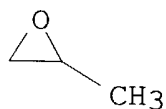
RN 9003-11-6 HCA

CN Oxirane, methyl-, polymer with oxirane (9CI) (CA INDEX NAME)

CM 1

CRN 75-56-9

CMF C3 H6 O



CM 2

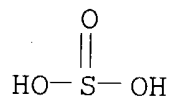
CRN 75-21-8

CMF C2 H4 O



RN 10117-38-1 HCA

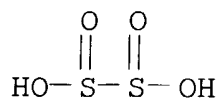
CN Sulfurous acid, dipotassium salt (8CI, 9CI) (CA INDEX NAME)



● 2 K

RN 14293-73-3 HCA

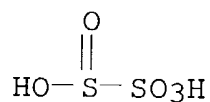
CN Dithionous acid, dipotassium salt (8CI, 9CI) (CA INDEX NAME)



● 2 K

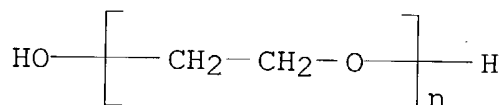
RN 16731-55-8 HCA

CN Disulfurous acid, dipotassium salt (9CI) (CA INDEX NAME)

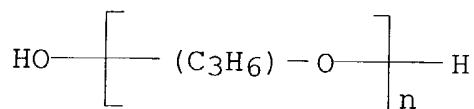


● 2 K

RN 25322-68-3 HCA

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -hydroxy- (9CI) (CA INDEX NAME)

RN 25322-69-4 HCA

CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha$ -hydro- $\omega$ -hydroxy- (9CI) (CA INDEX NAME)

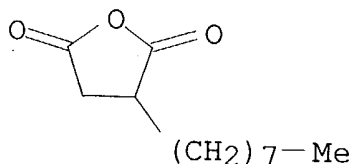
RN 26680-54-6 HCA

CN 2,5-Furandione, dihydro-3-(octenyl)- (9CI) (CA INDEX NAME)

CM 1

CRN 4200-92-4

CMF C12 H20 O3



IC ICM A61K038-00  
ICS D01F004-00; A23J001-00  
NCL 514021000  
CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 17, 63  
IT 50-70-4, D-Glucitol, uses 50-81-7, Ascorbic acid, uses 52-89-1,  
L-Cysteine hydrochloride 52-90-4, Cysteine, uses 56-81-5,  
1,2,3-Propanetriol, uses 57-11-4, Octadecanoic acid, uses  
57-13-6, Urea, uses 57-55-6, 1,2-Propanediol, uses 60-23-1,  
Cysteamine 60-24-2, Mercaptoethanol 69-65-8, D-Mannitol  
70-18-8, Glutathione, uses 77-93-0, Triethyl citrate 102-76-1,  
Glycerol triacetate 107-21-1, 1,2-Ethandiol, uses 108-30-5,  
Succinic anhydride, uses 112-27-6 585-88-6, Maltitol.  
1313-82-2, Sodium sulfide, uses **7631-90-5, Sodium  
bisulfite** 7632-00-0 **7681-57-4, Sodium  
pyrosulfite** 7773-03-7, **Potassium  
bisulfite** 7775-14-6, Sodium hydrosulfite  
7783-06-4, Hydrogen sulfide, uses 9000-07-1, Carrageenan  
9000-40-2, Locust bean gum **9002-89-5, Polyvinyl alcohol**  
**9003-11-6** 9004-32-4 9004-34-6, Cellulose, uses  
9004-64-2, Hydroxypropyl cellulose 9004-67-5, Cellulose methyl  
ether 9005-25-8, Starch, uses 9005-25-8D, Starch, oxidized  
9005-25-8D, Starch, propionamide derivs. 9005-27-0, Hydroxyethyl  
starch 9005-38-3, Sodium alginate 9045-28-7, Starch acetate  
9049-76-7, Hydroxypropyl starch 9057-06-1, CM-starch 9072-56-4,  
Ethyl starch **10117-38-1, Potassium  
sulfite** 10196-04-0, Ammonium sulfite 11120-02-8, Starch  
phosphate 12441-09-7, Sorbitan **14293-73-3, Potassium  
hydrosulfite** **16731-55-8, Potassium pyrosulfite**  
**25322-68-3 25322-69-4, Polypropylene .**  
**glycol** 25395-31-7, Glycerol diacetate 26446-35-5,  
Glycerol monoacetate **26680-54-6, N-Octenylsuccinic  
anhydride** 37189-22-3, Methyl starch 37353-59-6, Hydroxymethyl  
cellulose 39316-70-6, Starch succinate 39433-66-4, Starch  
maleate 52906-93-1, Starch octenylsuccinate 65988-28-5  
118729-31-0 154530-86-6 179032-84-9  
(soy protein-based biodegradable thermoplastic compns. for prep.  
molded articles)

William John; Campagna, James Arthur; Lucarelli, Michael Anthony (General Electric Co., USA). Brit. UK Pat. Appl. GB 2287249 A1 19950913, 22 pp. (English). CODEN: BAXXDU. APPLICATION: GB 1995-4015 19950228. PRIORITY: US 1994-212610 19940311.

AB Reaction products of an acid anhydride or halide of a polycarboxylic acid with adducts of SiH group-contg. silicon compds. such as silicones and silicates with  $R(OCH_2CH_2)_i(OCH_2CHMe)_jOH$  ( $R$  = alkenyl or alkynyl,  $i, j = 0-50$ ,  $i + j \geq 1$ ) are useful in personal care products in the acid or salt form. A typical reaction product was manufd. by reaction of trialkylsilyl-terminated, SiH-contg. siloxane fluid (mol. wt. 222) with polyethoxylated allyl alc. (d.p. 7.5) in PhMe 1 h in the presence of NaOAc and a Pt catalyst and reaction of the resulting adduct with dodecenylsuccinic anhydride 5 h at 100° in PhMe in the presence of toluenesulfonic acid-xylenesulfonic acid mixt. catalyst.

IT 25377-73-5DP, Dodecenylsuccinic anhydride, reaction products with adducts of unsatd. alcs. or polyoxyalkylated unsatd. alcs. and silicon hydride group-contg. silicon compds. 27274-31-3DP, Polyethylene glycol monoallyl ether, reaction products with silicon hydride group-contg. silicon compds. and polycarboxylic acid anhydrides

(carboxylic acid- or carboxylate salt-functional silicon compds. for personal care products)

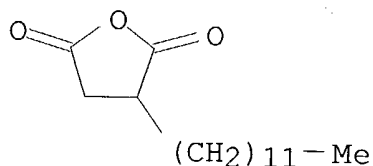
RN 25377-73-5 HCA

CN 2,5-Furandione, 3-(dodecenyl)dihydro- (9CI) (CA INDEX NAME)

CM 1

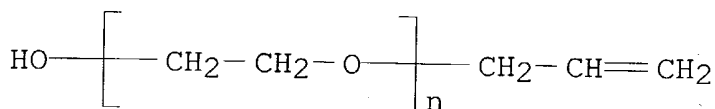
CRN 2561-85-5

CMF C16 H28 O3



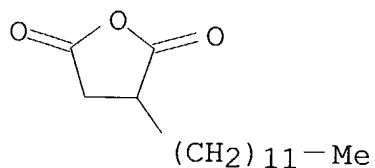
RN 27274-31-3 HCA

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -2-propenyl- $\omega$ -hydroxy- (9CI)  
(CA INDEX NAME)



IC ICM C08G077-46

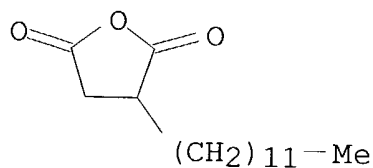
- CC 37-3 (Plastics Manufacture and Processing)  
Section cross-reference(s): 62
- IT 107-18-6DP, Allyl alcohol, reaction products with silicon hydride group-contg. silsesquioxane-siloxanes and succinic anhydride  
108-30-5DP, Succinic anhydride, reaction products with adducts of allyl alc. and silicon hydride group-contg. silsesquioxane-siloxanes  
**25377-73-5DP**, Dodecenylsuccinic anhydride, reaction products with adducts of unsatd. alcs. or polyoxyalkylated unsatd. alcs. and silicon hydride group-contg. silicon compds. **27274-31-3DP**, Polyethylene glycol monoallyl ether, reaction products with silicon hydride group-contg. silicon compds. and polycarboxylic acid anhydrides  
107029-32-3DP, Ethylene oxide-propylene oxide block copolymer monoallyl ether, reaction products with silicon hydride group-contg. silicon compds. and polycarboxylic acid anhydrides  
(carboxylic acid- or carboxylate salt-functional silicon compds. for personal care products)
- L67 ANSWER 6 OF 11 HCA COPYRIGHT 2004 ACS on STN
- 122:188456 Reactive emulsifiers for polymerization of vinyl compounds. Onodera, Sho; Yamamoto, Satoshi; Tamai, Tetsuya; Takahashi, Hideki (Nippon Oils & Fats Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 06239908 A2 19940830 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-47477 19930212.
- AB Title emulsifiers with good hydrolysis resistance and low wastewater COD, giving polymers with good bleeding and water resistance, are prepd. by treating (a) dicarboxylic acid (anhydrides), (b) sulfonate compds. contg. primary or secondary amines, and (c) ethylenic unsatd. compds. contg. CO<sub>2</sub>H-reactive groups. Thus, reaction of dodecenylsuccinic anhydride, Na N-methyltaurinate, and glycidyl methacrylate gave an emulsifier showing good stability and 6% hydrolysis at pH 2.0 and 60° in 6 h, 1.2 g of which was used in polymn. of 50 g styrene in 600 g H<sub>2</sub>O assocd. with releasing wastewater with 107 ppm COD.
- IT **2561-85-5DP**, Dodecylsuccinic anhydride, reaction products with amines and vinyl compds. **25377-73-5DP**, Dodecenylsuccinic anhydride, reaction products with amines and vinyl compds. **26680-54-6DP**, Octenylsuccinic anhydride, reaction products with amines and vinyl compds. **27274-31-3DP**, reaction products with dicarboxylic acids and amines  
(reactive emulsifiers for suspension polymn. of vinyl monomers)
- RN 2561-85-5 HCA
- CN 2,5-Furandione, 3-dodecyldihydro- (9CI) (CA INDEX NAME)



RN 25377-73-5 HCA  
 CN 2,5-Furandione, 3-(dodecenyl)dihydro- (9CI) (CA INDEX NAME)

CM 1

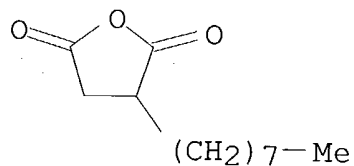
CRN 2561-85-5  
 CMF C16 H28 O3



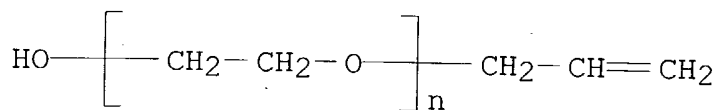
RN 26680-54-6 HCA  
 CN 2,5-Furandione, dihydro-3-(octenyl)- (9CI) (CA INDEX NAME)

CM 1

CRN 4200-92-4  
 CMF C12 H20 O3



RN 27274-31-3 HCA  
 CN Poly(oxy-1,2-ethanediyl), α-2-propenyl-ω-hydroxy- (9CI)  
 (CA INDEX NAME)



IC ICM C08F002-24

ICS B01F017-26; C08F002-18; C08F220-32; C08F222-06  
CC 35-4 (Chemistry of Synthetic High Polymers)  
IT 85-44-9DP, 1,3-Isobenzofurandione, reaction products with amines and vinyl compds. 106-91-2DP, reaction products with dicarboxylic acids and amines 106-92-3DP, reaction products with dicarboxylic acids and amines 107-18-6DP, Allyl alcohol, reaction products with dicarboxylic acids and amines 108-30-5DP, Succinic anhydride, reaction products with amines and vinyl compds. 108-31-6DP, 2,5-Furandione, reaction products with amines and vinyl compds. 111-19-3DP, Sebacic dichloride, reaction products with amines and vinyl compds. 111-45-5DP, Ethylene glycol monoallyl ether, reaction products with dicarboxylic acids and amines 124-04-9DP, Hexanedioic acid, reaction products with amines and vinyl compds. 2561-85-5DP, Dodecylsuccinic anhydride, reaction products with amines and vinyl compds. 4316-74-9DP, Sodium N-methyltaurine, reaction products with dicarboxylic acids and vinyl compds. 25377-73-5DP, Dodecenylsuccinic anhydride, reaction products with amines and vinyl compds. 26680-54-6DP, Octenylsuccinic anhydride, reaction products with amines and vinyl compds. 27274-31-3DP, reaction products with dicarboxylic acids and amines 27813-02-1DP, Propylene glycol monomethacrylate, reaction products with dicarboxylic acids and amines 52174-50-2DP, Glycerin diacrylate, reaction products with dicarboxylic acids and amines 92635-17-1DP, Potassium N-ethyltaurine, reaction products with dicarboxylic acids and vinyl compds. 139112-78-0DP, Taurine triethanolamine salt, reaction products with dicarboxylic acids and vinyl compds. 153757-12-1DP, Potassium N-dodecyltaurine, reaction products with dicarboxylic acids and vinyl compds. 161604-93-9DP, Lithium N-octyltaurine, reaction products with dicarboxylic acids and vinyl compds. 161604-94-0DP, N-Butyltaurine ammonium salt, reaction products with dicarboxylic acids and vinyl compds. 161604-95-1DP, Potassium N-tetradecyltaurine, reaction products with dicarboxylic acids and vinyl compds. 161748-36-3DP, Poly(propylene oxide) acrylate glycidyl ether, reaction products with dicarboxylic acids and amines  
(reactive emulsifiers for suspension polymn. of vinyl monomers)

L67 ANSWER 7 OF 11 HCA COPYRIGHT 2004 ACS on STN

112:140037 Surface-active polymers. Samour, Carlos M.; Krauser, Scott F. (Macrochem Corp., USA). Eur. Pat. Appl. EP 335624 A2 19891004, 17 pp. DESIGNATED STATES: R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1989-302981 19890323. PRIORITY: US 1988-174082 19880328.

AB The title polymers, useful as thickeners, superabsorbent materials, and in sewage and water-treatment, are prepd. by the polymn. of a mixt. contg. (A) 0.5-50% of a monomer selected from  $\alpha,\beta$ -unsatd. anionic, cationic, nonionic or ampholytic C8-30 lipophilic compds., (B) 99-40% of a water-sol. (pH 2-14)

unsatd. monomer, and (C) 0-60% of  $\geq 1$  (non)ionic monomer different from A or B. These polymers have a higher change d. than prior-art surface-active polymers. Thus, a mixt. of N,N,N-tri-Me Et methacrylate ammonium chloride 9, N,N-di-N-dodecylbenzyl Et methacrylate 1, and H<sub>2</sub>O 90 parts was heated to 25°, 0.02 part ammonium persulfate added followed by 0.01 part Na **metabisulfite**, producing a copolymer soln. having viscosity 80 cP-s (80 rpm; no. 2 spindle).

IT 125697-15-6P

(manuf. of surface-active)

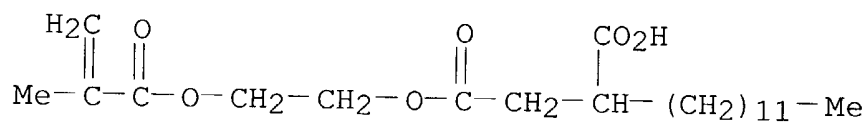
RN 125697-15-6 HCA

CN Butanedioic acid, dodecyl-, 4-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl] ester, polymer with 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 125697-14-5

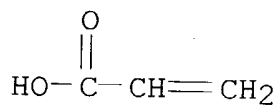
CMF C22 H38 O6



CM 2

CRN 79-10-7

CMF C3 H4 O2



IC ICM C08F246-00

ICS C08F220-54; A61K007-48; C02F011-12

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 46, 60, 61

IT 26161-33-1P 125697-13-4P **125697-15-6P** 125697-16-7P

125697-17-8P 125874-33-1P

(manuf. of surface-active)

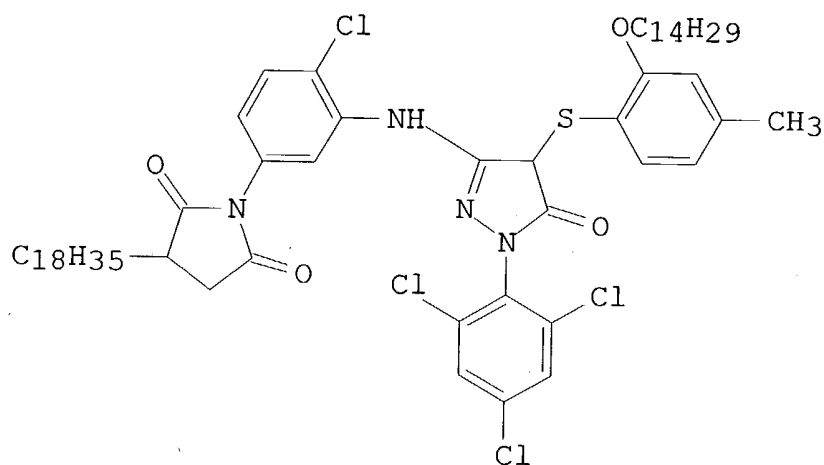
L67 ANSWER 8 OF 11 HCA COPYRIGHT 2004 ACS on STN

99:222319 Silver halide color photographic light-sensitive material and method for developing it. Ishikawa, Takatoshi; Morigaki, Masakazu; Nakamura, Takashi; Furutate, Nobuo (Fuji Photo Film Co., Ltd. ,

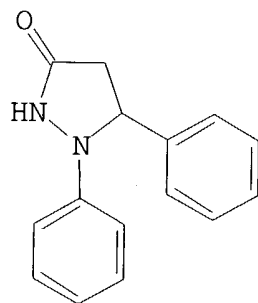


Japan). U.S. US 4383027 A 19830510, 19 pp. (English). CODEN:  
USXXAM. APPLICATION: US 1982-391331 19820623. PRIORITY: JP  
1981-97255 19810623.

GI



I



II

AB A photog. material providing high sensitivity magenta color images contains a combination of a 1-phenyl-3-anilino-4-phenylthio-5-pyrazolone deriv. and a 1-phenyl-3-pyrazolidone deriv. Thus, a cellulose triacetate support was coated with a green-sensitive Ag(Br,I) emulsion (6 mol% AgI) contg. I and II at coating amt. of Ag 1 g/m<sup>2</sup>, I 7 + 10<sup>-4</sup> and II 7 + 10<sup>-5</sup> mol/m<sup>2</sup>, resp., imagewise exposed, processed at 38° in a developer contg. 4-amino-3-methyl-N-ethyl-N-(β-hydroxyethyl)aniline monosulfate 5, Na<sub>2</sub>SO<sub>3</sub> 5, hydroxylamine sulfate 2, K<sub>2</sub>CO<sub>3</sub> 30, KHCO<sub>3</sub> 1.2, KBr 1.2, NaCl 0.2, tin-Na nitriloacetate 1.2 g, and H<sub>2</sub>O to 1 L (10% H<sub>2</sub>SO<sub>4</sub> to pH = 10.1) for 3 min, bleached in a soln. contg. Fe-NH<sub>4</sub> salt of EDTA 100, di-Na EDTA 10, KBr 150, glacial AcOH 10 g, and H<sub>2</sub>O to 1 L (aq. NH<sub>3</sub> to pH = 6) for 6.5 min, washed, fixed in a soln.

contg. (NH<sub>4</sub>)<sub>2</sub>S<sub>2</sub>O<sub>3</sub> 150, Na<sub>2</sub>SO<sub>3</sub> 10, NaHSO<sub>3</sub> 2.5 g  
 (10% H<sub>2</sub>SO<sub>4</sub> to pH = 6), and H<sub>2</sub>O to 1 L for 4 min, washed, and treated  
 with a stabilizing soln. contg. 37% formalin 5, Fuji Drywell (  
**surfactant**) 3, and H<sub>2</sub>O to 1 L for 1 min to give an image  
 with magenta fog d. 0.1 vs. 0.25 for a II-free control.

IT 87834-76-2

(photog. materials contg. phenylpyrazolidone deriv. and, for  
 prodn. of magenta color images with increased sensitivity)

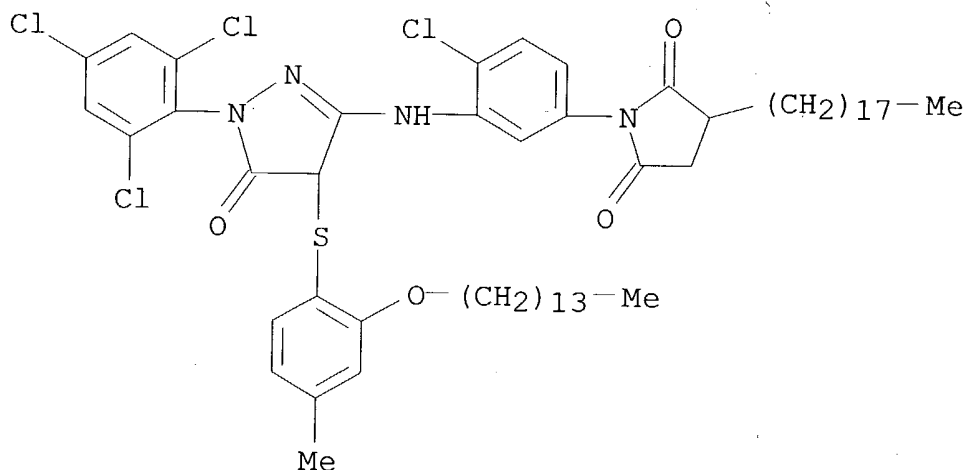
RN 87834-76-2 HCA

CN 2,5-Pyrrolidinedione, 1-[4-chloro-3-[[4,5-dihydro-4-[[4-methyl-2-  
 (tetradecyloxy)phenyl]thio]-5-oxo-1-(2,4,6-trichlorophenyl)-1H-  
 pyrazol-3-yl]amino]phenyl]-3-(octadecenyl)- (9CI) (CA INDEX NAME)

CM 1

CRN 86011-34-9

CMF C58 H82 Cl4 N4 O4 S

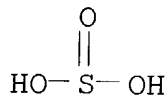


IT 7757-83-7

(photog. processing with soln. contg.)

RN 7757-83-7 HCA

CN Sulfurous acid, disodium salt (8CI, 9CI) (CA INDEX NAME)

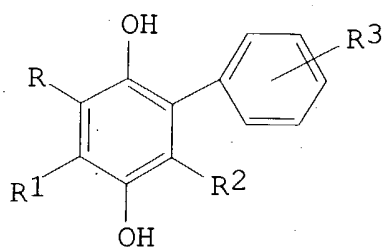


●2 Na

IC G03C001-40  
 NCL 430372000  
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 IT 82997-51-1 85888-24-0 87833-90-7 87833-91-8 **87834-76-2**  
 (photog. materials contg. phenylpyrazolidone deriv. and, for  
 prodn. of magenta color images with increased sensitivity)  
 IT 64-19-7, uses and miscellaneous 100-51-6, uses and miscellaneous  
 111-46-6, uses and miscellaneous 139-33-3 298-14-6 584-08-7  
 5064-31-3 7647-14-5, uses and miscellaneous **7757-83-7**  
 7758-02-3, uses and miscellaneous 10039-54-0 21265-50-9  
 25646-77-9  
 (photog. processing with soln. contg.)

L67 ANSWER 9 OF 11 HCA COPYRIGHT 2004 ACS on STN  
 93:228557 Direct-positive photographic recording material. Ogi, Keiji;  
 Sasaki, Takashi; Tosaka, Yasuo (Konishiroku Photo Industry Co.,  
 Ltd., Japan). Ger. Offen. DE 2945136 19800522, 41 pp. (German).  
 CODEN: GWXXBX. APPLICATION: DE 1979-2945136 19791108.

GI



AB A direct-pos. photog. material consists of a support layer and a photosensitive Ag halide emulsion layer of the internal image-type contg.  $\geq 1$  compd. of formula I (R, R1, R2 = H, halo, alkyl, aryl; R3 = H, halo, alkyl, alkoxy, acyl, amino, aryl aryloxy, NO2, OH, CO2H, alkoxy-carbonyl). The material is used for prodn. of direct-pos. images by imagewise exposure followed by total exposure before or during development or development in presence of a fogging agent. Thus, a Ag(Cl,Br,I) emulsion of the internal image-type was prepd. Then 2-phenyl-1,4-benzenediol 2 g was dissolved in 5 mL di-Bu phthalate and 10 mL EtOAc and this soln. was emulsified and dispersed in 100 mL of 5% Na dodecylbenzenesulfonate-contg. aq. gelatin. This dispersion was then added to 1 L of the Ag halide emulsion [0.35 mol Ag(Cl,Br,I)] and 30 mL of 4% aq. Na salt of 2,4-dichloro-6-hydroxy-s-triazine hardener was added. The emulsion was coated on a cellulose triacetate support layer and dried to give 35 mg Ag/100 cm<sup>2</sup> support surface. The film was exposed through a

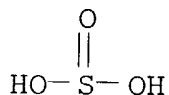
step wedge in a sensitometer, developed 6 min at 20° with a developer contg. N-methylaminophenol 2.5, 1-ascorbic acid 10, NaBO<sub>2</sub> 35, KBr 1 g, and H<sub>2</sub>O to give 1L, fixed, washed, and dried. Thirty s after the start of the development until its completion the entire surface was uniformly exposed to light of 5 lx intensity. A pos. image was obtained with D<sub>max</sub> and D<sub>min</sub> of 1.21 and 0.08, resp., compared with 0.91 and 0.08, resp., for a film without the 2-phenyl-1,4-benzenediol.

IT 7757-83-7

(photog. developer soln. contg., for direct-pos. emulsions)

RN 7757-83-7 HCA

CN Sulfurous acid, disodium salt (8CI, 9CI) (CA INDEX NAME)



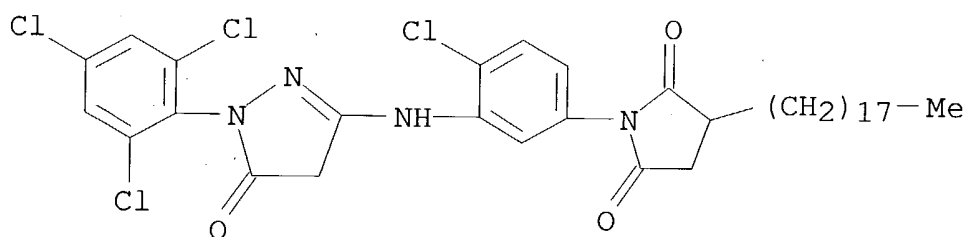
●2 Na

IT 61368-52-3

(photog. direct-pos. emulsion layers contg.)

RN 61368-52-3 HCA

CN 2,5-Pyrrolidinedione, 1-[4-chloro-3-[[4,5-dihydro-5-oxo-1-(2,4,6-trichlorophenyl)-1H-pyrazol-3-yl]amino]phenyl]-3-octadecyl- (9CI)  
(CA INDEX NAME)



IC G03C001-485

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)

IT 50-81-7, uses and miscellaneous 51-17-2 92-43-3 136-85-6

150-75-4 7757-83-7 7758-02-3, uses and miscellaneous

9004-32-4 13047-13-7 16800-11-6

(photog. developer soln. contg., for direct-pos. emulsions)

IT 61368-52-3

(photog. direct-pos. emulsion layers contg.)

IT 25155-30-0

(surfactant, in photog. direct-pos. emulsion layers)

L67 ANSWER 10 OF 11 HCA COPYRIGHT 2004 ACS on STN

87:54130 Cationic polymer emulsions. Yamada, Hideto; Adachi, Yoshio (Seiko Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 52052985 19770428 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1975-130222 19751027.

AB Emulsions contg. polystyrene (I) [9003-53-6] or a similar polymer and having good stability were prepd. by using an alkenylsuccinic acid amide ACOH salt or a similar compd. as an emulsifying agent. Thus, 32.7 g maleic anhydride [108-31-6] and 60.3 g  $\alpha$ -olefin (C12-4) were heated at 190-200° for 12 h to give an alkenylsuccinic anhydride, cooled to 100°, mixed with 34 g dimethylaminopropylamine [109-55-7], heated at 100-40° for 3 h and 180° for 3 h, cooled to 80°, mixed with 20 g ACOH and 273 g water (50°) to give a dispersion, mixed (80 g) with 56 g styrene, 54 g water, 5 mL 50% aq. (NH<sub>4</sub>)<sub>2</sub>S<sub>2</sub>O<sub>8</sub>, and 5 mL 5% aq. NaHSO<sub>3</sub>, and heated at 40-50° for 30 min and 75-80° for 2 h to prep. a I emulsion.

IT 30850-36-3D, reaction products with diethylaminopropylamine, acetic acid salt  
(emulsifying agents, for polymn. of isobutyl acrylate with methyl methacrylate)

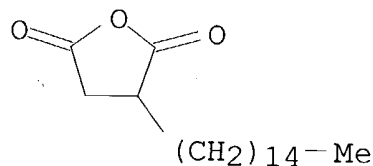
RN 30850-36-3 HCA

CN 2,5-Furandione, dihydro-3-(pentadecenyl)- (9CI) (CA INDEX NAME)

CM 1

CRN 47235-60-9

CMF C19 H34 O3



IT 63559-66-0 63559-68-2D, reaction products with epichlorohydrin

(emulsifying agents, for polymn. of styrene)

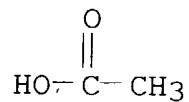
RN 63559-66-0 HCA

CN 2,5-Furandione, dihydro-3-(pentadecenyl)-, polymer with N-(2-aminoethyl)-1,2-ethanediamine, acetate (9CI) (CA INDEX NAME)

CM 1

CRN 64-19-7

CMF C2 H4 O2



CM 2

CRN 63559-65-9

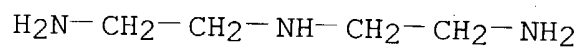
CMF (C19 H32 O3 . C4 H13 N3)x

CCI PMS

CM 3

CRN 111-40-0

CMF C4 H13 N3



CM 4

CRN 30850-36-3

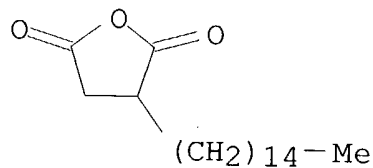
CMF C19 H32 O3

CCI IDS

CM 5

CRN 47235-60-9

CMF C19 H34 O3



RN 63559-68-2 HCA

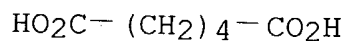
CN Hexanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine  
and 3-(dodecenyl)dihydro-2,5-furandione, hydrochloride (9CI) (CA  
INDEX NAME)

CM 1

CRN 63559-67-1  
 CMF (C16 H26 O3 . C6 H10 O4 . C4 H13 N3)x  
 CCI PMS

CM 2

CRN 124-04-9  
 CMF C6 H10 O4



CM 3

CRN 111-40-0  
 CMF C4 H13 N3

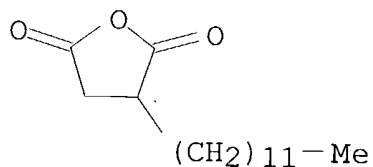


CM 4

CRN 25377-73-5  
 CMF C16 H26 O3  
 CCI IDS

CM 5

CRN 2561-85-5  
 CMF C16 H28 O3



IC C08F002-28  
 CC 36-6 (Plastics Manufacture and Processing)  
 ST polymn styrene **emulsifier**; alkenylsuccinic acid amide  
**emulsifier**  
 IT Alkenes, compounds  
 (reaction products with dimethylaminopropylamine and maleic  
 anhydride, acetic acid salts, **emulsifiers**, for polymn.  
 of styrene)

- IT Polymerization  
(emulsion, of styrene, **emulsifiers** for)
- IT 106-89-8D, reaction products with acetic acid and dimethylaminopropylamine and maleic anhydride and olefin  
108-31-6D, reaction products with dimethylaminopropylamine and olefin, acetic acid salt 109-55-7D, reaction products with maleic anhydride and olefin, acetic acid salt  
(**emulsifiers**, for polymn. of styrene)
- IT 104-78-9D, reaction products with pentadecenylsuccinic anhydride, acetic acid salt **30850-36-3D**, reaction products with diethylaminopropylamine, acetic acid salt  
(emulsifying agents, for polymn. of isobutyl acrylate with methyl methacrylate)
- IT 109-55-7D, reaction products with maleic anhydride-pentadiene copolymer, acetic acid salt **63559-66-0 63559-68-2D**, reaction products with epichlorohydrin  
(emulsifying agents, for polymn. of styrene)

L67 ANSWER 11 OF 11 HCA COPYRIGHT 2004 ACS on STN  
59:61630 Original Reference No. 59:11271e-h Sulfoalkyl and sulfopolyalkylenoxyalkyl monoesters of alkenylsuccinic acids and salts thereof. Gaertner, Van R. (Monsanto Chemical Co.). US **3086043** 19630416, 4 pp. (Unavailable). APPLICATION: US 19591221.

AB Salts of sulfoalkyl and sulfopolyalkylenoxyalkyl esters of alkenylsuccinic acids having the general formula  $RCH(CO_2H)CH_2CO_2CHR'$  'CH<sub>2</sub>(OCHR'CH<sub>2</sub>)<sub>x</sub>SO<sub>3</sub>Z, where R is an alkenyl radical having from 8 to 20 C atoms, R' is H or an alkyl radical having from 1 to 4 C atoms, x is a number from 0 to 3, and Z is an alkali or an alk. earth metal, are prepd. by the reaction of an alkenylsuccinic anhydride with a hydroxyalkane- or hydroxypolyalkylenoxyatkanesulfonate in a neutral or an alk. soln. in the presence of a basic catalyst such as pyridine. The compds. are obtained as stable, usually H<sub>2</sub>O-sol., viscous liquids or resinous materials that are useful as lathering agents, wetting-out agents, and detergents. Thus, a stirred mixt. of 29.2 g. of Na isethionate (I), 200 ml. of dimethylformamide (DMF), 26.6 g. triisobutenylsuccinic anhydride, and 2 g. pyridine was kept 18.5 hrs. at 65-80°. When the temp. reached 80°, another 10 ml. of pyridine was added. After cooling to room temp., the mixt. was filtered and the filtrate extd. with hexane. DMF was distd. and the residue dissolved in EtOH and treated with C. After removal of the C, the mixt. was distd. to a pot temp. of 100° at 1 mm. to obtain a brittle, amber resin, Na O-mono(2sulfoethyl) triisobutenylsuccinate. Similarly prepd. from I were the following compds. of the general formula  $RCH(CO_2H)CH_2CO_2CH_2CH_2SO_3Na$  (R, product appearance, % yield given): tetrapropenyl, --, 94.5; alkenyl (mixed C<sub>10</sub>-C<sub>12</sub>), dark amber resin, --; pentapropenyl, viscous, reddish brown gum, 71.7. Similarly prepd. from Na diethylene glycol sulfonate (II) were the following



materials of general formula  $RCH(CO_2H)CHCH_2CO_2C_2H_4(OC_2H_4)SO_3Na$  (R, product appearance, % yield): tetrapropenyl, light amber semi-gum, 94; octadecenyl, brittle, dark amber solid, 79; triisobutenyl, amber resin, 87.4; alkenyl (mixed C10-C12), amber gum, 95. Na O-mono(sulfomethyl) tetrapropenylsuccinate was prepd. from  $HCHO-NaHSO_3$  adduct in a yield of 89.7%.

IT 102832-47-3, Succinic acid, octadecenyl-, 4-ester with 2-(2-hydroxyethoxy)ethanesulfonic acid, S-Na salt (prepn. of)

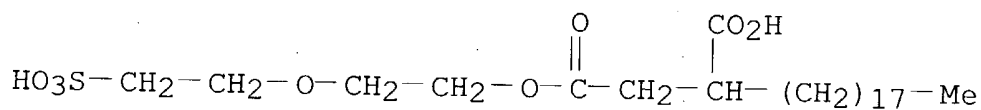
RN 102832-47-3 HCA

CN Succinic acid, (octadecenyl)-, 4-ester with 2-(2-hydroxyethoxy)ethanesulfonic acid, S-sodium salt (7CI) (CA INDEX NAME)

CM 1

CRN 102832-46-2

CMF C26 H50 O8 S



NCL 260485000

CC 33 (Aliphatic Compounds)

IT 102832-47-3, Succinic acid, octadecenyl-, 4-ester with 2-(2-hydroxyethoxy)ethanesulfonic acid, S-Na salt 111618-11-2, Succinic acid, (triisobutenyl)-, 4-ester with 2-(2-hydroxyethoxy)ethanesulfonic acid, S-Na salt 111688-53-0, Succinic acid, (tetrapropenyl)-, 4-ester with 2-(2-hydroxyethoxy)ethanesulfonic acid, S-Na salt (prepn. of)

=> d 168 1-13 cbib abs hitstr hitind

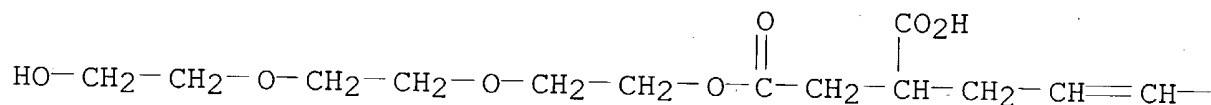
L68 ANSWER 1 OF 13 HCA COPYRIGHT 2004 ACS on STN

136:237339 Adhesion properties of surface-active derivatives of hexylenesuccinic acid. Makhkamov, R. R. (Inst. Obshchei i Neorg. Khim., AN RUZ., Uzbekistan). O'zbekiston Kimyo Jurnal (4), 27-29 (Russian) 2001. CODEN: OKJZA6. ISSN: 0042-1707. Publisher: Izdatel'stvo Fan.

AB Adhesion of hexylenesuccinic acid-based **surfactants** was investigated. The dependence of the adhesion work on the concn. and the nature of adhesive was detd. The adhesion to surface is via hydrogen bonds between the substrate and the **surfactant** mol.

- IT 246512-88-9  
 (adhesion properties of surface-active derivs. of  
 hexylenesuccinic acid)  
 RN 246512-88-9 HCA  
 CN Butanedioic acid, 2-hexenyl-, 4-[2-[2-(2-hydroxyethoxy)ethoxy]ethyl]  
 ester, monopotassium salt (9CI) (CA INDEX NAME)

PAGE 1-A



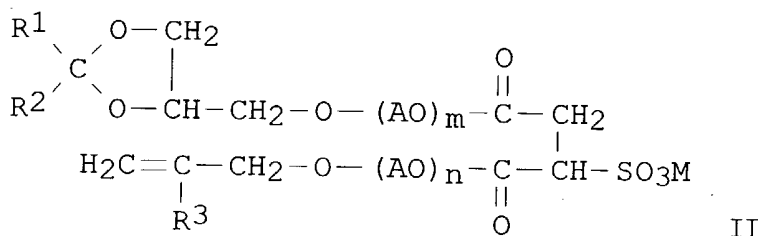
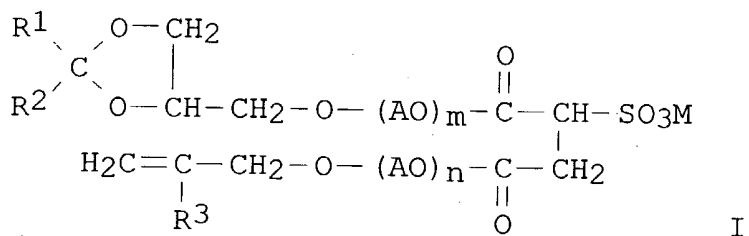
● K

PAGE 1-B

—Pr-n

- CC 66-4 (Surface Chemistry and Colloids)  
 ST hexylenesuccinic acid deriv **surfactant** adsorption hydrogen  
 bond  
 IT **Surfactants**  
 (anionic; adhesion properties of surface-active derivs.  
 of hexylenesuccinic acid)  
 IT 5672-10-6D, alkyl polyalc. deriv. 72680-60-5 ~ 144237-74-1  
 246512-88-9  
 (adhesion properties of surface-active derivs. of  
 hexylenesuccinic acid)  
 L68 ANSWER 2 OF 13 HCA COPYRIGHT 2004 ACS on STN  
 135:78274 Decomposable reactive emulsifiers giving improved stability  
 and polymer modification using them. Hashimoto, Yoshiyuki (Daiichi  
 Kogyo Seiyaku Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP  
 2001181310 A2 20010703, 18 pp. (Japanese). CODEN: JKXXAF.  
 APPLICATION: JP 1999-365772 19991224.

GI



AB Polymn. of monomers in the presence of emulsifiers I and/or II [R<sup>1</sup>, R<sup>2</sup> = C1-20 alkyl, alkenyl, H; R<sup>1</sup> = R<sup>2</sup> ≠ H; R<sup>3</sup> = H, Me; A = C2-4 (substituted) alkylene; M = H, alkali metal, ammonium, alkanolamine residue; m, n = 0-50] gives emulsifier-contg. polymers, whose 1,3-dioxolane rings are decompd. by acids to impart the polymers hydrophilicity and facilitate their recovery. The resulting polymers are useful for coatings with improved adhesion and heat resistance. Thus, 2-methyl-2-undecyl-4-hydroxymethyl-1,3-dioxolane (prepd. from 2-tridecanone and glycerin) was reacted with monoallyl maleate and **NaHSO<sub>3</sub>** to give I and/or II (R<sup>1</sup> = C<sub>11</sub>H<sub>25</sub>; R<sup>2</sup> = Me; R<sup>3</sup> = H; M = Na; m, n = 0). Polymn. of Bu acrylate and vinyl acetate in the presence of the emulsifier gave an emulsion with less foaming and good water resistance.

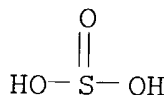
IT **7631-90-5, Sodium bisulfite**

**27274-31-3, Polyethylene glycol monoallyl ether**

(decomposable reactive emulsifiers giving improved stability and polymer modification)

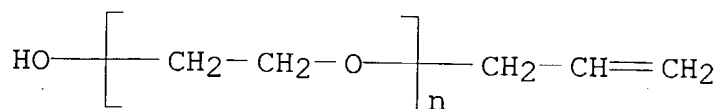
RN 7631-90-5 HCA

CN Sulfurous acid, monosodium salt (8CI, 9CI) (CA INDEX NAME)



● Na

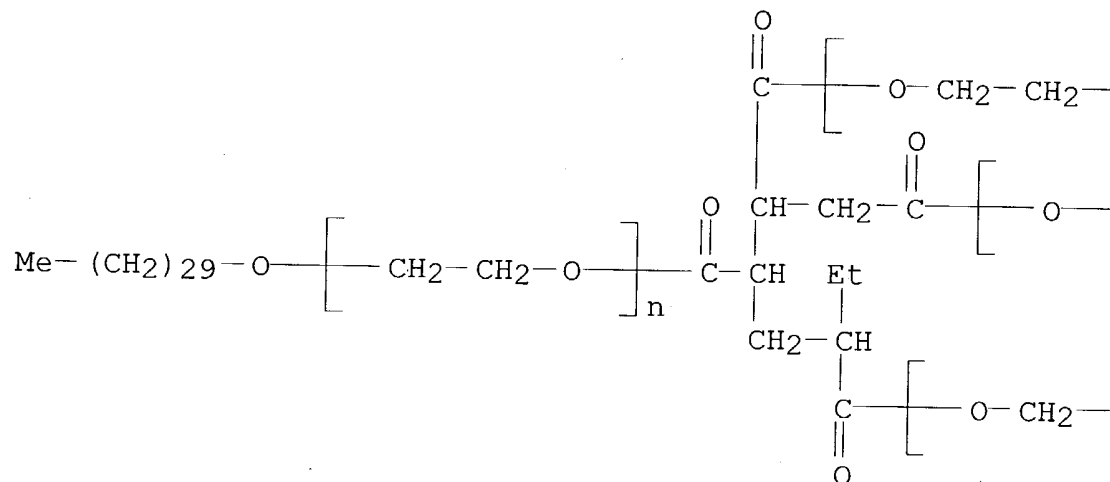
RN 27274-31-3 HCA  
 CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -2-propenyl- $\omega$ -hydroxy- (9CI)  
 (CA INDEX NAME)



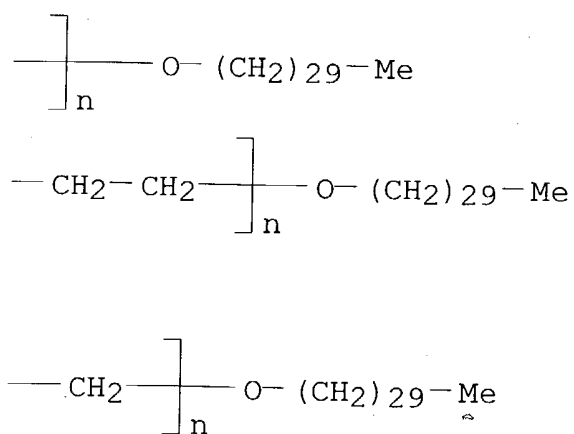
- IC ICM C08F002-24  
 ICS B01F017-42; B01F017-54
- CC 42-7 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 23, 35, 46
- ST dioxolane reactive decomposable emulsifier; coating water heat resistance dioxolane emulsion; allyl maleate **sodium sulfite** dioxolane polymer; butyl acrylate vinyl acetate dioxolane polymer
- IT 56-81-5, Glycerin, reactions 100-79-8, 1,2-Isopropylideneglycerin 107-18-6, Allyl alcohol, reactions 108-31-6, Maleic anhydride, reactions 111-87-5, n-Octanol, reactions 112-54-9, Dodecanal 462-18-0, 7-Tridecanone 513-42-8, Methallyl alcohol 593-08-8, 2-Tridecanone 593-32-8, 2-Octadecanol **7631-90-5**, **Sodium bisulfite** 10192-30-0, Ammonium bisulfite **27274-31-3**, Polyethylene glycol monoallyl ether 103938-08-5 307299-53-2  
 (decomposable reactive emulsifiers giving improved stability and polymer modification)
- L68 ANSWER 3 OF 13 HCA COPYRIGHT 2004 ACS on STN
- 134:267684 Compositions for oiling and softening synthetic fibers and method for using. Takagi, Makoto; Kobayashi, Kiyoto; Inagaki, Kuniyasu; Kinoshita, Tsukasa (Takemoto Oil and Fat Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001081673 A2 20010327, 17 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-258717 19990913.
- AB The compns., useful for improving weaving speed of fibers with freedom from spot burning, contain specific C28-60 alkyl or alkanoyl group-single end-terminated polyethylene glycol compds., and polyoxyalkylene-modified fatty amides, their salts, quaternized compds., or their crosslinked products. Thus, a typical oil compn. was obtained from (A) an ethoxylated triacontyl alc. behenate 30, an ethoxylated diethylenetriamine distearamide 40 and a **surfactant** contg. 40:40:20 mixt. of bis(2-hydroxyethyl)stearamide, stearamide ethyldimethylethylammonium ethosulfate and polyethylene glycol stearyl ether, 30 parts.
- IT **331672-75-4P**, Polyethylene glycol tetraester with 1,2,3,5-heptanetetracarboxylic acid, triacontyl ether  
 (compns. for oiling and softening synthetic fibers and method for using)

RN	331672-75-4	HCA	
CN	Poly(oxy-1,2-ethanediyl), $\alpha$ -hydro- $\omega$ -(triacontyloxy)-, ester with 1,2,3,5-heptanetetracarboxylic acid (4:1) (9CI) (CA INDEX NAME)		

PAGE 1-A



PAGE 1-B



IC ICM D06M015-53  
ICS D06M013-402; D06M015-643; D06M101-28  
CC 40-7 (Textiles and Fibers)  
IT 50-21-5DP, Lactic acid, salt with ethylene oxide-propylene oxide

copolymer ether with diethylenetriamine distearamide compds.  
 74-87-3DP, Methyl chloride, quaternary salt with ethylene  
 oxide-propylene oxide copolymer ether with diethylenetriamine  
 distearamide compds. 512-56-1DP, Trimethyl phosphate, quaternary  
 salt with ethylene oxide-propylene oxide copolymer ether with  
 diethylenetriamine distearamide compds. 1623-15-0DP, salt with  
 ethylene oxide-propylene oxide copolymer ether with  
 diethylenetriamine distearamide compds. 9003-11-6DP, Ethylene  
 oxide-propylene oxide copolymer, ether with diethylenetriamine  
 di-fatty acid amides, long-chain alkyl ether, salt or quaternary  
 compds. 10220-90-3DP, Diethylenetriamine distearamide, compds.  
 with ethylene oxide-propylene oxide copolymer, trimethylsilyl ether  
 52526-80-4P 98181-76-1P 115593-70-9P, Diethylenetriamine  
 $\alpha,\omega$ -dioleamide-ethylene oxide adduct 331672-64-1P,  
 Polyethylene glycol triacontyl ether behenate 331672-65-2P,  
 Polyethylene glycol tetracontyl ether stearate 331672-67-4P,  
 Polyethylene glycol acetate tetracontanoate 331672-69-6P,  
 Polyethylene glycol diester with adipic acid, triacontyl ether  
 331672-71-0P, Polyethylene glycol diester with succinic acid,  
 tetracontyl ether 331672-73-2P, Polyethylene glycol triester with  
 1,2,3-butanetricarboxylic acid, triacontyl ether  
**331672-75-4P**, Polyethylene glycol tetraester with  
 1,2,3,5-heptanetetracarboxylic acid, triacontyl ether  
 331672-78-7P, Diethylenetriamine  $\alpha,\omega$ -dibehenamide-  
 ethylene oxide adduct 331672-81-2P, Diethylenetriamine  
 distearamide-ethylene oxide adduct, acetate salt 331672-83-4P,  
 Diethylenetriamine  $\alpha,\omega$ -dibehenamide-ethylene oxide  
 adduct, acetate salt 331672-86-7P 331672-89-0P,  
 Diethylenetriamine  $\alpha,\omega$ -dibehenamide-ethylene oxide  
 adduct, quaternary salt with diethyl sulfate 331672-90-3P  
 331672-91-4P 331672-93-6P 331672-96-9P 331672-98-1P  
 331673-00-8P 331673-02-0P 331673-05-3P 331673-07-5P  
 331948-52-8P, Ethylene oxide-propylene oxide copolymer  
 monopentacontyl ether

(compns. for oiling and softening synthetic fibers and method for  
 using)

IT 32763-11-4, Acrylonitrile-methyl acrylate-methyl methacrylate-sodium  
**p-styrenesulfonate** copolymer 38723-60-3,  
 Acrylonitrile-sodium **methallylsulfonate**-vinyl chloride  
 copolymer

(fibers; compns. for oiling and softening synthetic fibers and  
 method for using)

L68 ANSWER 4 OF 13 HCA COPYRIGHT 2004 ACS on STN

133:165447 Multibranched dipolar compounds for **surfactants**,  
 their manufacture and uses as **emulsifiers**,

**dispersants** and **detergents**. Aratani, Kenichi

(Chukyo Yushi K. K., Japan). Jpn. Kokai Tokyo Koho JP 2000219654

A2 20000808, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-22850 19990129.

AB The compds. belong to (Z1O2CR3)(Y1X1)CHR5CH(X2Y2)(R4CO2Z2) (Y1 = OR11, NR12R13; Y2 = OR21, NR22R23; when X1, X2 = CH2 then R11, R12, R21, R22 = satd. fatty alkyl, R13, R23 = H, satd. fatty alkyl; R3, R4, R5 = alkyl with C no. of each R3, R4 and R5 is  $\geq 0$  or total C of 1 or 2; Z1, Z2 = H+). Thus, heating cis-1,2,3,6-tetrahydrophthalic anhydride with dodecyl alc. and p-toluenesulfonic acid monohydrate in PhMe at reflux for 24 h while removing water through the azeotropic distn. gave a diester which was oxidized with K permanganate in the presence of tetrabutylammonium bromide to give 1,2,3,4-butanetetracarboxylic acid 2,3-didodecyl ester.

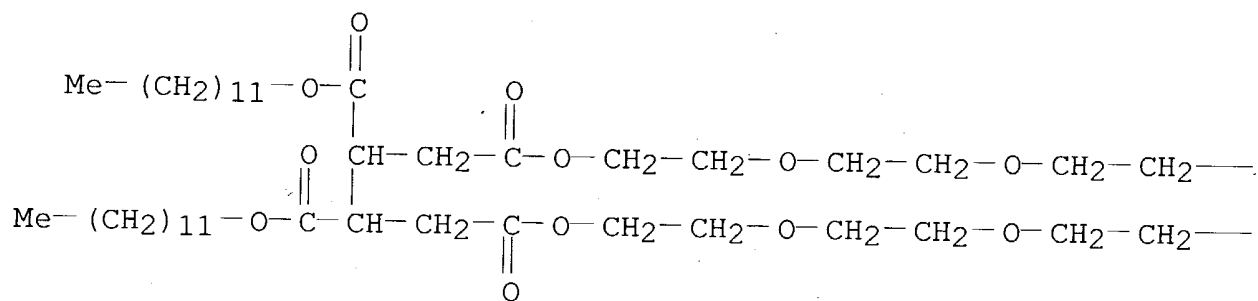
IT 287975-69-3P

(surfactants; multibranched dipolar compds. for surfactants, manuf. and uses as emulsifiers, dispersants and detergents)

RN 287975-69-3 HCA

CN 1,2,3,4-Butanetetracarboxylic acid, 2,3-didodecyl 1,4-bis(14-hydroxy-3,6,9,12-tetraoxatetradec-1-yl) ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

— O—CH<sub>2</sub>—CH<sub>2</sub>—O—CH<sub>2</sub>—CH<sub>2</sub>—OH

— O—CH<sub>2</sub>—CH<sub>2</sub>—O—CH<sub>2</sub>—CH<sub>2</sub>—OH

IC ICM C07C059-305

- ICS B01F017-00; B01F017-28; C07C069-28; C07C069-34; C11D001-08;  
C11D001-10
- CC 46-3 (Surface Active Agents and Detergents)
- ST dipolar amphoteric compd **surfactant** manuf;  
tetrahydrophthalic anhydride diester permanganate oxidn product  
**surfactant**
- IT **Surfactants**  
(amphoteric; multibranched dipolar compds. for  
**surfactants**, manuf. and uses as **emulsifiers**,  
**dispersants** and **detergents**)
- IT **Detergents**  
Dispersing agents  
Emulsifying agents  
(multibranched dipolar compds. for **surfactants**, manuf.  
and uses as **emulsifiers**, **dispersants** and  
**detergents**)
- IT Carboxylic acids, uses  
(polycarboxylic acid esters; multibranched dipolar compds. for  
**surfactants**, manuf. and uses as **emulsifiers**,  
**dispersants** and **detergents**)
- IT 20141-17-7P, cis-4,5-Bis(hydroxymethyl)cyclohexene 287975-62-6P  
287975-64-8P 287975-66-0P 287975-68-2P  
(intermediate; multibranched dipolar compds. for  
**surfactants**, manuf. and uses as **emulsifiers**,  
**dispersants** and **detergents**)
- IT 935-79-5, cis-1,2,3,6-Tetrahydrophthalic anhydride  
(starting material; multibranched dipolar compds. for  
**surfactants**, manuf. and uses as **emulsifiers**,  
**dispersants** and **detergents**)
- IT 287975-63-7P 287975-65-9P 287975-67-1P 287975-69-3P  
(**surfactants**; multibranched dipolar compds. for  
**surfactants**, manuf. and uses as **emulsifiers**,  
**dispersants** and **detergents**)
- L68 ANSWER 5 OF 13 HCA COPYRIGHT 2004 ACS on STN
- 133:155164 Nanoemulsion from alkoxyated alkenyl succinates or  
alkoxyated alkenyl succinates of glucose and its cosmetic,  
dermatologic, ophthalmologic, and/or pharmaceutical uses. Simonnet,  
Jean-thierry; Sonnevile, Odile; Legret, Sylvie (L'Oreal, Fr.).  
Eur. Pat. Appl. EP 1025898 A1 20000809, 11 pp. DESIGNATED STATES:  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO. (French). CODEN: EPXXDW. APPLICATION: EP  
2000-400009 20000104. PRIORITY: FR 1999-1178 19990202.
- AB Cosmetic, dermatol., ophthalmol., and/or pharmaceutical  
nanoemulsions with oil globules <100 nm contain **surfactants**  
chosen from alkoxyated alkenyl succinates or alkoxyated alkenyl  
succinates of glucose and an oil having mol. wt. >400, the ratio of  
oily phase to **surfactant** is 2:10. The nanoemulsion is



transparent and stable over storage. A make-up remover fluid contained Acylglutamate HS21 0.5 isocetyl stearate 10, iso-Pr myristate 5, ethoxylated dihexadecenyl succinate 4.5, 1 M sodium hydroxide 3, glycerin 5, dipropylene glycol 10, and water 62%.

IT 287728-36-3 287728-38-5

(nanoemulsion from alkoxyated alkenyl succinates or alkoxyated alkenyl succinates of glucose and its cosmetic, dermatol., ophthalmol. and/or pharmaceutical uses)

RN 287728-36-3 HCA

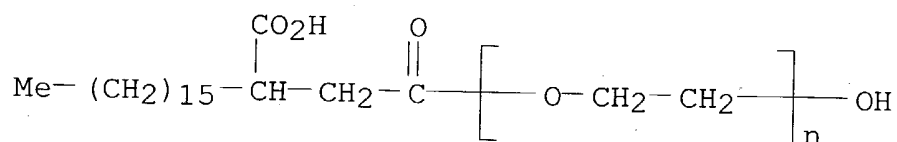
CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -(3-carboxy-1-oxononadecenyl)- $\omega$ -hydroxy- (9CI) (CA INDEX NAME)

CM 1

CRN 287728-35-2

CMF (C2 H4 O)<sub>n</sub> C20 H38 O4

CCI PMS



RN 287728-38-5 HCA

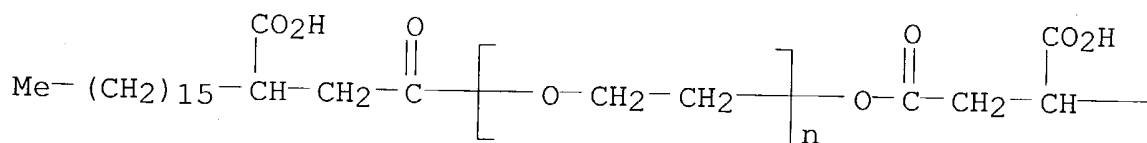
CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -(3-carboxy-1-oxononadecenyl)- $\omega$ -[(3-carboxy-1-oxononadecenyl)oxy]- (9CI) (CA INDEX NAME)

CM 1

CRN 287728-37-4

CMF (C2 H4 O)<sub>n</sub> C40 H74 O7

CCI PMS



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PAGE 1-B

— (CH<sub>2</sub>)<sub>15</sub>—Me

IC ICM B01F017-00

ICS A61K007-00

CC 62-4 (Essential Oils and Cosmetics)

IT **Sulfonates**

(**alkanesulfonates**, derivs.; nanoemulsion from alkoxyated alkenyl succinates or alkoxyated alkenyl succinates of glucose and its cosmetic, dermatol., ophthalmol. and/or pharmaceutical uses)

IT 110-27-0, Iso Propyl myristate 1256-86-6D, Cholesteryl sulfate, alkali metal salts 2197-63-9D, Dicetyl phosphate, alkali metal salts 4358-16-1D, Cholesteryl phosphate, alkali metal salts 6640-03-5D, Dimyristyl phosphate, alkali metal salts 25339-09-7, Isocetyl stearate **287728-36-3 287728-38-5**  
287728-39-6 287728-40-9

(nanoemulsion from alkoxyated alkenyl succinates or alkoxyated alkenyl succinates of glucose and its cosmetic, dermatol., ophthalmol. and/or pharmaceutical uses)

L68 ANSWER 6 OF 13 HCA COPYRIGHT 2004 ACS on STN

122:109365 Branched ethers and manufacture thereof. Fujitani, Tsuratake; Nakazawa, Mikiro (Shin Nippon Rika Kk, Japan). Jpn. Kokai Tokkyo Koho JP 06135893 A2 19940517 Heisei, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-315739 19921029.

AB The title ethers useful for lubricating oils, fiber lubricants, **surfactants**, resin additives, etc. have the general formula CH<sub>2</sub>(CO<sub>2</sub>R<sub>1</sub>)CH(CO<sub>2</sub>R<sub>2</sub>)CH(CO<sub>2</sub>R<sub>3</sub>)CH<sub>2</sub>CO<sub>2</sub>R<sub>4</sub> [R<sub>1-4</sub> = C<sub>1-36</sub> alkyl, alkenyl, alicyclic group, (AO)lR<sub>5</sub>; R<sub>5</sub> = C<sub>1-36</sub> alkyl, alkenyl, alicyclic group, arom. hydrocarbyl; AO = C<sub>2-3</sub> oxyalkylene; l = 1-100; ≥1 of R<sub>1-4</sub> being oxyalkylene]. Lauryl alc. ethoxylate (OH group 0.4 mol) was treated with 0.1 mol 1,2,3,4-butanetetracarboxylic acid in the presence of p-**toluenesulfonic** acid in xylene at 130-150° for 6 h to give a product with acid value 0.4.

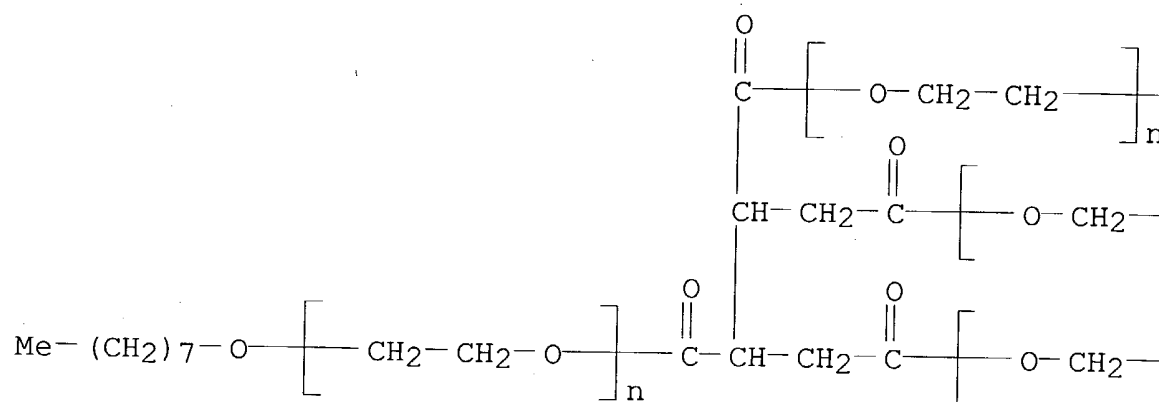
IT **158042-78-5P 160460-96-8P 160460-97-9P**  
**160569-34-6P 160712-75-4P 160712-76-5P**  
**160759-34-2P**

(manuf. of)

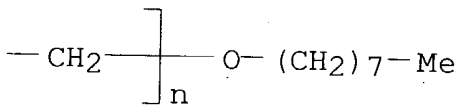
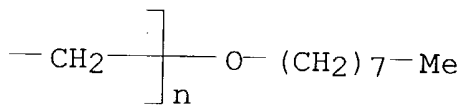
RN 158042-78-5 HCA

CN Poly(oxy-1,2-ethanediyl), α-hydro-ω-(octyloxy)-, ester with 1,2,3,4-butanetetracarboxylic acid (4:1) (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

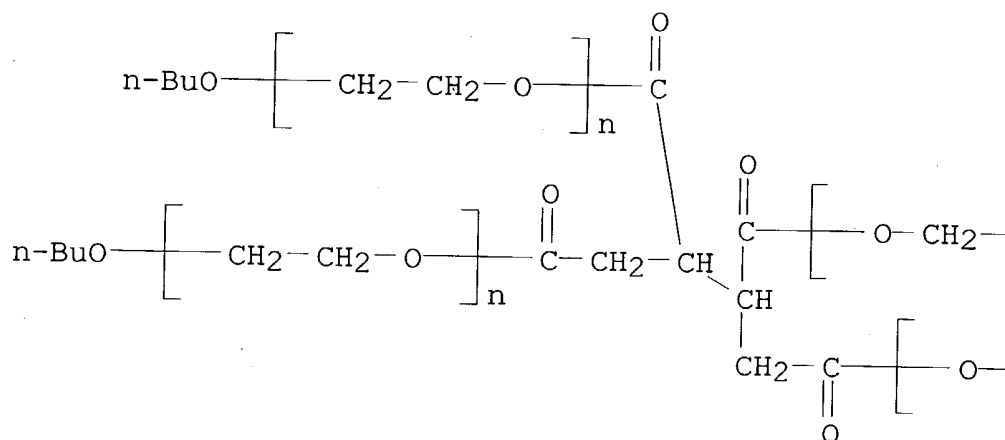


RN 160460-96-8 HCA

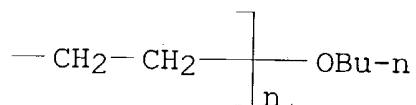
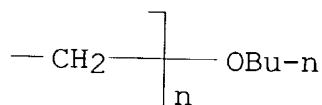
CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -(dodecyloxy)-,  
1,2,3,4-butanetetracarboxylate (4:1) (9CI) (CA INDEX NAME)



PAGE 1-A



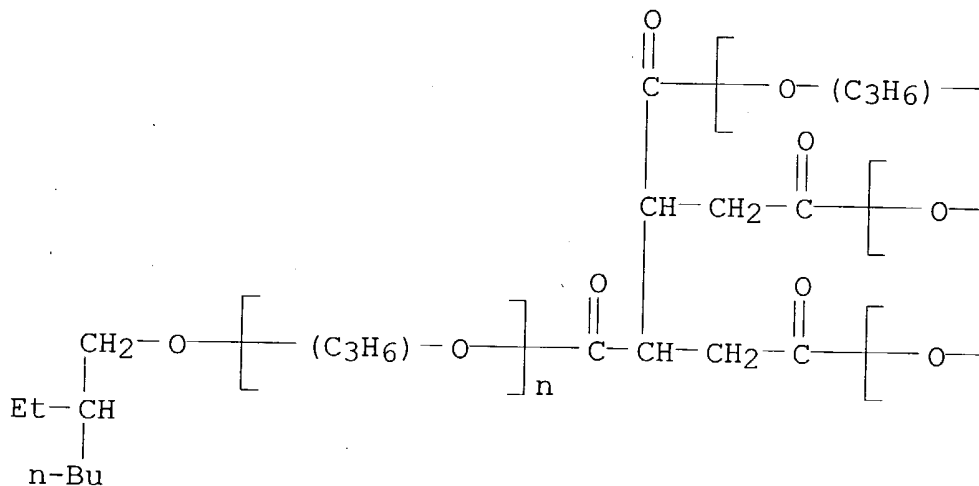
PAGE 1-B



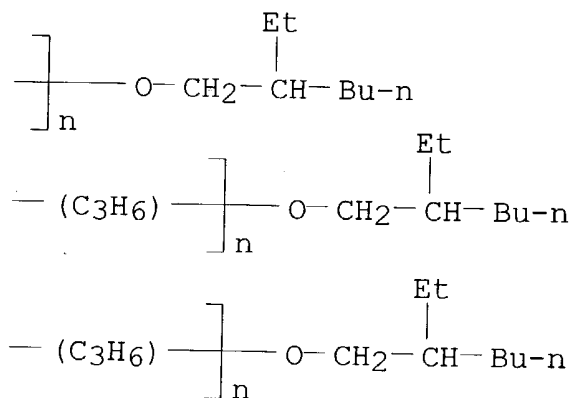
RN 160569-34-6 HCA

CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha$ -hydro- $\omega$ -[(2-ethylhexyl)oxy]-, ether with 1,2,3,4-butanetetracarboxylic acid (4:1) (9CI) (CA INDEX NAME)

PAGE 1-A

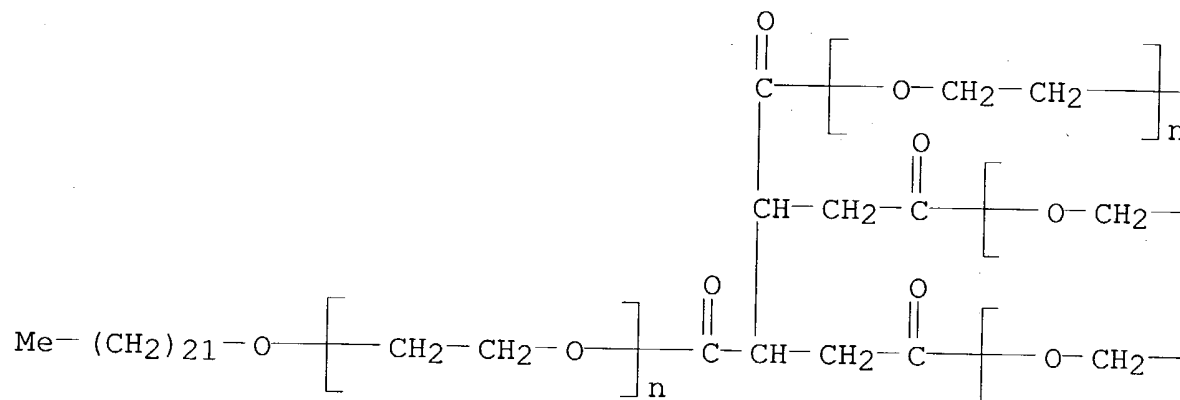


PAGE 1-B

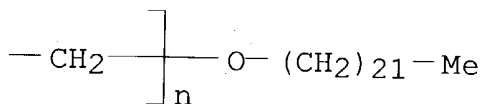
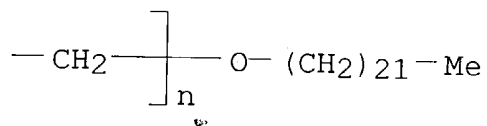
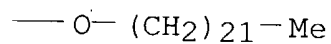


RN 160712-75-4 HCA  
 CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -(docosyloxy)-,  
 1,2,3,4-butanetetracarboxylate (4:1) (9CI) (CA INDEX NAME)

PAGE 1-A



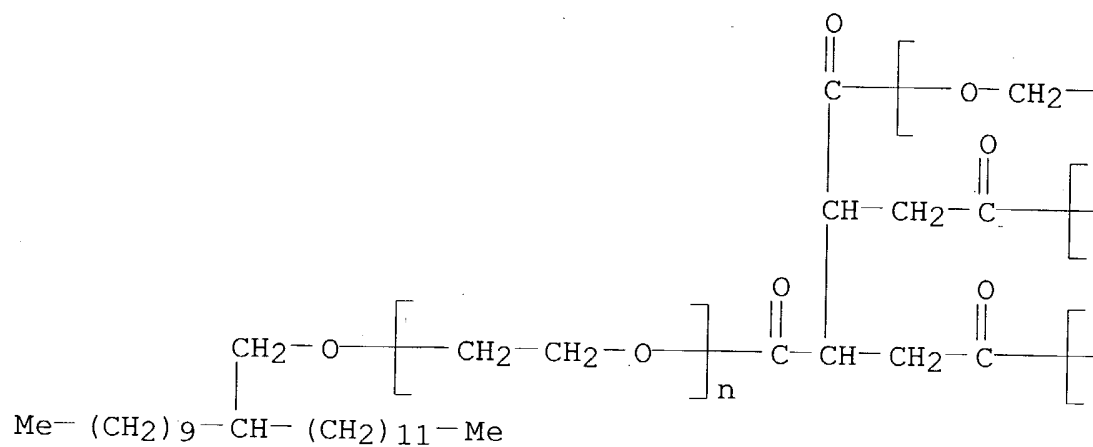
PAGE 1-B



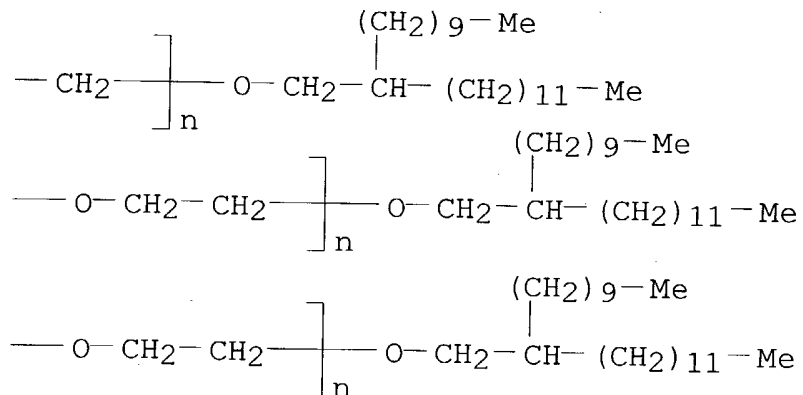
RN 160712-76-5 HCA

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -[(2-decyltetradecyl)oxy]-, 1,2,3,4-butanetetracarboxylate (4:1) (9CI)  
(CA INDEX NAME)

PAGE 1-A



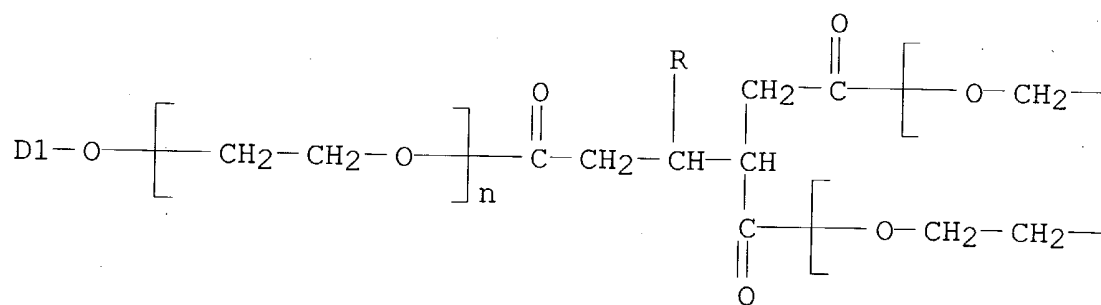
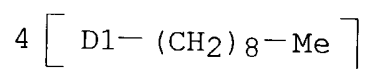
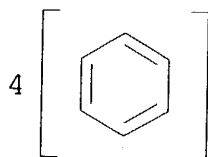
PAGE 1-B



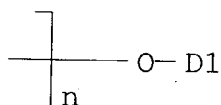
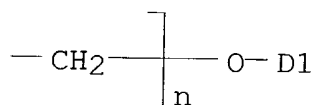
RN 160759-34-2 HCA  
 CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -(nonylphenoxy)-,  
 1,2,3,4-butanetetracarboxylate (4:1) (9CI) (CA INDEX NAME)



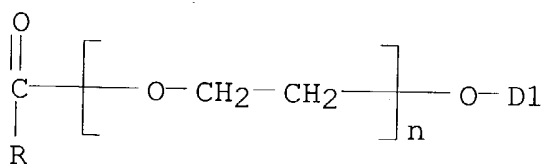
PAGE 1-A



PAGE 1-B



PAGE 2-A

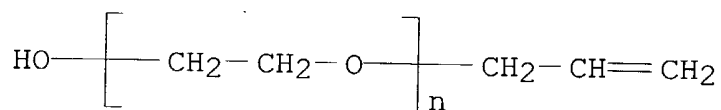


IC ICM C07C069-34  
 ICS C07C067-08  
 CC 46-3 (Surface Active Agents and Detergents)  
 IT 158042-78-5P 160460-96-8P 160460-97-9P  
 160569-34-6P 160712-75-4P 160712-76-5P  
 160759-34-2P 160858-96-8P 160902-36-3P  
 (manuf. of)

L68 ANSWER 7 OF 13 HCA COPYRIGHT 2004 ACS on STN  
 120:58445 Attempts at lithium single-ionic conduction by anchoring  
 sulfonate anions as terminating groups of oligo(oxyethylene) side  
 chains in comb-type polyphosphazenes. Tada, Yuji; Sato, Moriyuki;

Takeno, Noboru; Nakacho, Yoshifumi; Shigehara, Kiyotaka (Fac. Eng., Muroran Inst. Technol., Muroran, 050, Japan). Chemistry of Materials, 6(1), 27-30 (English) 1994. CODEN: CMATEX. ISSN: 0897-4756.

- AB Novel comb-type polyphosphazenes with anchored Li sulfopropyl oligo(oxyethylene) side chains (SEP) were synthesized by a one-step reaction with  $\text{LiHSO}_3$  and polyphosphazenes contg. oligo(oxyethylene) side chains terminated with allyl groups. The d.c. ionic cond. ( $\sigma$ ) of SEP was measured and compared with hybrid between  $\text{LiSO}_3\text{CF}_3$  and the corresponding non-sulfonate comb-type polymer poly[bis( $\omega$ -methoxyoligo(oxyethylene)]phosphazene]. While the time dependence of  $\sigma/\sigma_0$  ( $\sigma_0$  = initial cond.) of SEP showed a const. value, that of the hybrid system drastically decreased with time due to the self-polarization by mobile anions. The stationary values of  $\sigma$  after prolonged electrolysis were  $7.1 + 10^{-8}$  S/cm for SEP and  $8.5 + 10^{-7}$  S/cm for the hybrid at 1-V d.c. supply.
- IT 27274-31-3DP, Polyethylene glycol monoallyl ether, reaction products with poly(dichlorophosphazene) and polyethylene glycol monoethyl ether, graft, sulfonated, lithium salts (comb, prepn. and elec. cond. of, for battery electrolytes)
- RN 27274-31-3 HCA
- CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -2-propenyl- $\omega$ -hydroxy- (9CI)  
(CA INDEX NAME)



- CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
Section cross-reference(s): 38, 72, 76
- IT 25231-98-5DP, Poly(hexachlorocyclotriphosphazene), reaction products with polyethylene glycol monomethyl ether and polyethylene glycol monoallyl ether, graft, sulfonated, lithium salts 26085-02-9DP, Poly(dichlorophosphazene), reaction products with polyethylene glycol monomethyl ether and polyethylene glycol monoallyl ether, graft, sulfonated, lithium salts 27274-31-3DP, Polyethylene glycol monoallyl ether, reaction products with poly(dichlorophosphazene) and polyethylene glycol monoethyl ether, graft, sulfonated, lithium salts 27879-07-8DP, Polyethylene glycol monoethyl ether, reaction products with poly(dichlorophosphazene) and polyethylene glycol monoallyl ether, graft, sulfonated, lithium salts (comb, prepn. and elec. cond. of, for battery electrolytes)

Susumu; Hagiwara, Masaaki; Shinoda, Junichi (Lion Corp., Japan).  
Jpn. Kokai Tokkyo Koho JP 03035067 A2 19910215 Heisei, 7 pp.

(Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-169017 19890630.

AB The title agents for manuf. of regenerated pulp from offset-printed papers contain  $\geq 1$  succinate selected from  
M(OA)nOCOCHR1CH2CO2(AO)mR2 (I), M(OA)nOCOCH2CHR1CO2(AO)mR2 (II),  
M(OA)nOCOCHR1CH2CO2(AO)mCOCH2CHR1CO2(AO)nM,  
M(OA)nOCOCH2CHR1CO2(AO)mCOCHR1CH2CO2(AO)nM, and  
M(OA)nOCOCH2CHR1CO2(AO)mCOCH2CHR1CO2(AO)nM [R1 = (un)substituted C8-22 alkyl or alkenyl; R2 = H, (un)substituted C1-22 alkyl or alkenyl; A = C2-4 alkylene; M = H, alkali metal, ammonium, (hydroxyalkyl)ammonium; n = 0-250; m = 1-250]. Thus, a slurry of waste newspaper (relief- and offset-printed) and leaflets was disintegrated using NaOH, Na silicate, H2O, I [R1 = C16H31, R2 = M = H, (AO)m = block (C2H4O)15(C3H6O)35(C2H4O)15; n = 0] (III), and II (same as III) (IV) at 55° for 20 min and made into sheets which showed whiteness 51.0, residual ink area 0.10%, and residual ink no. 332, vs. 45.5, 0.53, and 1755, resp., using octadecenylsuccinic anhydride instead of III and IV.

IT 137706-02-6 137706-04-8  
(deinking agents, for offset-printed papers)

RN 137706-02-6 HCA

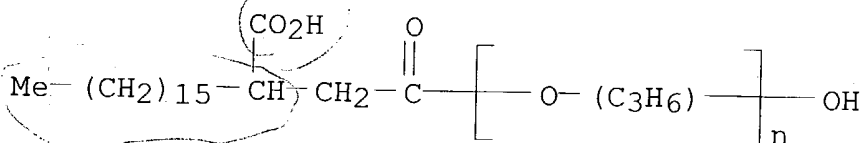
CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha$ -(3-carboxy-1-oxononadecenyl)- $\omega$ -hydroxy- (9CI) (CA INDEX NAME)

CM 1

CRN 137706-01-5

CMF (C3 H6 O)n C20 H38 O4

CCI IDS, PMS



RN 137706-04-8 HCA

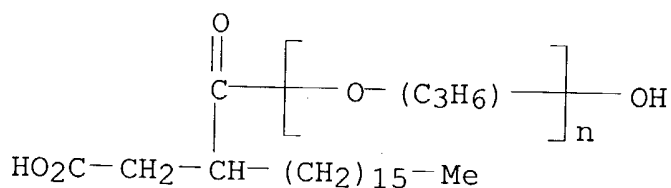
CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha$ -[2-(carboxymethyl)-1-oxooctadecenyl]- $\omega$ -hydroxy- (9CI) (CA INDEX NAME)

CM 1

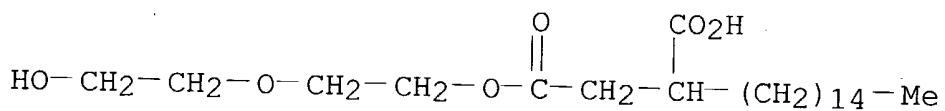
CRN 137706-03-7

CMF (C3 H6 O)n C20 H38 O4

CCI IDS, PMS

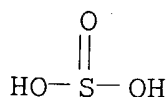


- IC ICM C09D009-04  
 CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)  
 IT **Surfactants**  
 (anionic, polyoxyalkylene sulfates, deinking agents  
 contg. alkoxyated succinates and, for offset-printed papers)  
 IT **Surfactants**  
 (nonionic, polyoxyalkylene ethers, deinking agents contg.  
 alkoxyated succinates and, for offset-printed papers)  
 IT 137673-08-6 137673-09-7 137673-10-0 137673-12-2 137673-13-3  
 137673-14-4 137673-15-5 137673-16-6 137673-17-7 137673-18-8  
 137673-19-9 137673-20-2 137673-21-3 137673-22-4 137673-23-5  
 137673-24-6 137673-25-7 137673-26-8 137673-27-9 137673-28-0  
 137673-29-1 137673-30-4 137673-31-5 **137706-02-6**  
**137706-04-8**  
 (deinking agents, for offset-printed papers)  
 L68 ANSWER 9 OF 13 HCA COPYRIGHT 2004 ACS on STN  
 115:18498 Photographic material with hardener layer. Himmelmann,  
 Wolfgang; Buschmann, Hans Theo; Herzog, Dieter; Balser, Klaus;  
 Szablikowski, Klaus (Agfa-Gevaert A.-G., Germany). Ger. Offen. DE  
 3914947 A1 19901108, 47 pp. (German). CODEN: GWXXBX. APPLICATION:  
 DE 1989-3914947 19890506.  
 AB A photog. material is described with a hardening layer contg. a  
 hardener, a H2O-sol. sulfoethylcellulose which is practically  
 nonreacting with the hardener,  $\geq 0.5$  mg/m<sup>2</sup> gelatin, and an  
**anionic surfactant**. The photog. material has  
 improved abrasion resistance. Thus, a photog. film was coated with  
 a hardening layer.  
 IT **134531-45-6**  
 (surfactant, photog. hardening layer contg.)  
 RN 134531-45-6 HCA  
 CN Butanedioic acid, pentadecyl-, 4-[2-(2-hydroxyethoxy)ethyl] ester,  
 monosodium salt (9CI) (CA INDEX NAME)



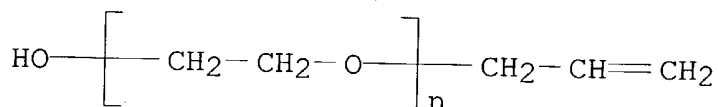
● Na

- IC ICM G03C001-30  
ICS G03C007-30
- ICA C07D277-02; C07D249-12; C07D249-18
- CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- IT Photographic hardening agents  
(thickener and **surfactant** combination for)
- IT Photographic films  
Photographic paper  
(color, hardening layer for, thickener and **surfactant** and hardener in)
- IT 27136-81-8 **134531-45-6** 134531-46-7  
(**surfactant**, photog. hardening layer contg.)
- L68 ANSWER 10 OF 13 HCA COPYRIGHT 2004 ACS on STN  
114:64154 Fast degumming of ramie. Ren, Chuanrong; Jiang, Chengwei; Li, Taoqi; et al. (Xian Modern Chemistry Institute, Peop. Rep. China). Faming Zhuanli Shenqing Gongkai Shuomingshu CN 1041012 A 19900404, 9 pp. (Chinese). CODEN: CNXXEV. APPLICATION: CN 1988-106418 19880907.
- AB Ramie is cooked in 8-14 g/L NaOH contg. 1-3 % (based on ramie) surfactant aides at 1.5-2.5 kg/cm<sup>2</sup> for 1-2 h and at ordinary pressure for 3-6 h, where the surfactant aides contain polyethylene glycol alkyl ether 2-18, polyethylene glycol alkyl Ph ether 1-10, fatty acids 4-20, phosphate salts 10-30, carbonates 10-50, **sulfites** 1-10, **sodium** silicate 10-20, and water 5-20%. Thus, a surfactant aid contained polyethylene glycol laurate 2, polyethylene glycol octylphenyl ether 5, stearic acid 15, Na tripolyphosphate 20, Na carbonate 30, **Na sulfite** 8, **Na** silicate 10, and water 10%.
- IT **7757-83-7, Sodium sulfite**  
(degumming agents contg., for ramie)
- RN 7757-83-7 HCA
- CN Sulfurous acid, disodium salt (8CI, 9CI) (CA INDEX NAME)



## ●2 Na

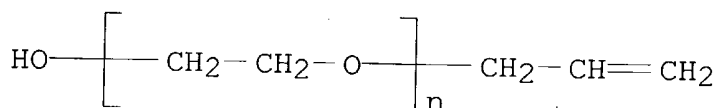
- IT 27274-31-3, Polyethylene glycol allyl ether  
(surfactants, degumming aides contg., for ramie)  
RN 27274-31-3 HCA  
CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -2-propenyl- $\omega$ -hydroxy- (9CI)  
(CA INDEX NAME)



- IC ICM D01C001-00  
ICS D01B001-14; D01B009-00  
CC 40-2 (Textiles and Fibers)  
IT 57-11-4, Stearic acid, uses and miscellaneous 497-19-8, Sodium carbonate, uses and miscellaneous 1344-09-8, Sodium silicate 7757-83-7, Sodium sulfite 7758-29-4, STPP  
(degumming agents contg., for ramie)  
IT 27274-31-3, Polyethylene glycol allyl ether  
(surfactants, degumming aides contg., for ramie)  
L68 ANSWER 11 OF 13 HCA COPYRIGHT 2004 ACS on STN  
109:191462 Sulfo group-containing oligooxyethylene-polyphosphazenes and manufacture thereof. Tada, Yuji; Nakanaga, Takefumi; Yamada, Shinichi (Otsuka Chemical Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 63162724 A2 19880706 Showa, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-310740 19861226.  
AB The title polymers useful for gas sepn. membranes and ion-exchange membrane materials with good low-temp. and wetting properties contain  $[-\text{N:P}[\text{O}(\text{CH}_2\text{CH}_2\text{O})_h\text{CH}_2\text{CH}_2\text{CH}_2\text{SO}_3\text{M}]_2-]_l$ ,  $[-\text{N:P}[\text{O}(\text{CH}_2\text{CH}_2\text{O})_k\text{R}]_2-]_m$ , and  $[-\text{N:P}[\text{O}(\text{CH}_2\text{CH}_2\text{O})_k\text{R}][\text{O}(\text{CH}_2(\text{H}_2\text{O})_h\text{CH}_2\text{CH}_2\text{CH}_2\text{SO}_3\text{M})-]_n$  segments (M = H,  $\text{NH}_4$ , alkali metal; R = Me, Et, Pr; h, k = 0-15; l, m, n  $\geq 0$  at  $l + m + n = 3-200,000$  and  $l + n \neq 0$ ). A soln. of 375 mmol  $\text{HO}(\text{CH}_2\text{CH}_2\text{O})_k\text{Me}$  (k = .apprx.7) and 54 mmol  $\text{HO}(\text{CH}_2\text{CH}_2\text{O})_h\text{CH}_2\text{CH}_2\text{CH}_2$  (h = .apprx.7) in 500 mL THF was treated over 30 min with 390 mmol BuLi at  $-20^\circ$  to  $-10^\circ$ . A soln. of 15.1 g dichlorophosphonitrile polymer in 100 mL dioxane was added

over 45 min to the above Li alcoholate soln. at  $-15^{\circ}$  to  $-10^{\circ}$ , and the resulting mixt. was refluxed for 5 h, concd., dild. with water, neutralized with dil. HCl, and dialyzed to give yellow rubber with wt.-av. mol. wt. 773,000 and dispersity 23.9. The above dialyzate (1130 mL, 54.6 g polymer, 0.028 equiv alkyl group) was treated with 0.2 mol  $\text{Li}_2\text{SO}_2$  in 100 mL water, then with a soln. of 0.4 mol  $\text{LiHsO}_3$  and 0.2 mol  $\text{Li}_2\text{SO}_3$  in 250 mL water over 5 min at  $25^{\circ}$ , heated at  $70-93^{\circ}$  for 1 h, and dialyzed to give 52.3 g slightly yellow tacky  $[\text{N:P}[\text{O}(\text{CH}_2\text{CH}_2\text{O})0.5\text{Me}]1.62[\text{O}(\text{CH}_2\text{CH}_2\text{O})6.5\text{CH}_2\text{CH}_2\text{CH}_2\text{SO}_3\text{Li}]0.38]_n$  with wt.-av. mol. wt. 612,000, dispersity 13.4, and glass temp.  $-70.2^{\circ}$ .

- IT 27274-31-3DP, Polyethylene glycol monoallyl ether, reaction products with phosphazene polymers, sulfo group-contg. (manuf. of, for permselective ion-exchange membranes)  
 RN 27274-31-3 HCA  
 CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -2-propenyl- $\omega$ -hydroxy- (9CI) (CA INDEX NAME)



- IC ICM C08G079-02  
 ICS C08G079-02  
 CC 37-3 (Plastics Manufacture and Processing)  
 IT 9004-74-4DP, Polyethylene glycol monomethyl ether, reaction products with phosphazene polymers, sulfo group-contg. 27274-31-3DP, Polyethylene glycol monoallyl ether, reaction products with phosphazene polymers, sulfo group-contg. (manuf. of, for permselective ion-exchange membranes)
- L68 ANSWER 12 OF 13 HCA COPYRIGHT 2004 ACS on STN  
 92:111670 Polyurethanes dispersible or soluble in water. Nachtkamp, Klaus; Pedain, Josef; Noll, Klaus (Bayer A.-G., Fed. Rep. Ger.). Eur. Pat. Appl. EP 4927 19791031, 34 pp. (German). CODEN: EPXXDW. APPLICATION: EP-1979-101083 19790409.
- AB The title compns. contain 0.5-20% polyoxyethylene units and 0.1-25 mequiv.  $\text{SO}_3\text{H}$  groups/100 g. Thus, air was blown through a soln. of 85:15 polyethylene-polypropylene glycol monoallyl ether [9041-33-2] (OH no. 56.2) 1000,  $\text{Na}_2\text{S}_2\text{O}_5$  190, and  $\text{H}_2\text{O}$  200 g stirred at  $100^{\circ}$  for 24 h; the soln. was acidified to pH 2.0, and air was blown through for 10 h to give polyethylene-polypropylene glycol mono(sulfopropyl) ether (I) [72711-05-8], viscosity 500 mPa-s at  $20^{\circ}$ , contg. 3.0% S. Stirring I 154, trimethylolpropane 10.7, poly(butylene adipate) (mol. wt. 900) 729, and isophorone diisocyanate 399.6 g at  $90^{\circ}$  to NCO content 5.2%; cooling;



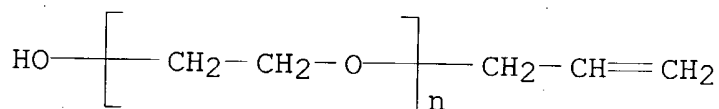
adding 2 kg Me<sub>2</sub>CO and, dropwise, 119 g isophoronediamine and 10 g N<sub>2</sub>H<sub>4</sub>.H<sub>2</sub>O, and then 2.13 kg H<sub>2</sub>O; and distg. Me<sub>2</sub>CO gave a 40% aq. polyurethane [72981-13-6] dispersion, Ford cup. no. 4 viscosity 18 s, contg. 7.5% polyoxyethylene and 9.9 mequiv. SO<sub>3</sub>H/100 g.

IT 27274-31-3

(reaction of, with disodium pyrosulfite)

RN 27274-31-3 HCA

CN Poly(oxy-1,2-ethanediyl), α-2-propenyl-ω-hydroxy- (9CI)  
(CA INDEX NAME)

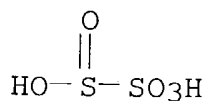


IT 7681-57-4

(reaction of, with polyoxyalkylene alkyl ethers)

RN 7681-57-4 HCA

CN Disulfurous acid, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

IC C08G018-08; C08G018-38; C08G018-50; C08G018-77

CC 36-3 (Plastics Manufacture and Processing),

IT 9041-33-2 27274-31-3

(reaction of, with disodium pyrosulfite)

IT 7681-57-4

(reaction of, with polyoxyalkylene alkyl ethers)

L68 ANSWER 13 OF 13 HCA COPYRIGHT 2004 ACS on STN

84:61015 Poly(alkylene oxide)-containing urethane polyols with sulfonic acid group(s). Engelhard, Helmut; Wolf, Gerhard Dieter; Bantz, Francis; Nischk, Guenther (Bayer A.-G., Fed. Rep. Ger.). Ger. Offen. DE 2412217 19751009, 25 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1974-2412217 19740314.

AB The title compds., which could be treated with long-chain alkyl isocyanates to give compds. useful as antistatic agents for fibers, consisted of polyethylene glycol mono[N,N-bis(2-hydroxyethyl)carbamate] (sodiosulfo)alkyl or (sodiosulfo)arylmonoethers. Thus, allyl alc. [107-18-6] was treated with enough ethylene oxide [75-21-8] in the presence of base to give a

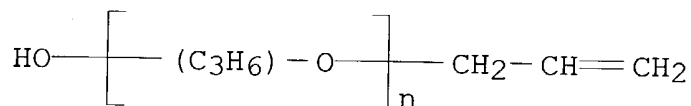
polyethylene glycol monoallyl ether [27274-31-3] of d.p. .apprx.30, which was treated with phosgene [75-44-5] and then with diethanolamine [111-42-2] to give polyethylene glycol monoallyl ether N,N-bis(2-hydroxyethyl)carbamate (I). [57759-32-7]. Sulfonating I with **Na bisulfite** gave polyethylene glycol 3-(sodiumsulfo)propyl ether N,N-bis(2-hydroxyethyl)carbamate [57759-33-8], which was treated with stearyl isocyanate [112-96-9] to give a triurethane (II) [57759-29-2]. Spinning a polyacrylonitrile dope contg. 5% wt. II (based on polymer) gave an acrylic fiber which had surface resistance after 10 washings 5 + 1010 ohms at 23° and 50% relative humidity.

IT 9042-19-7 27274-31-3

(reaction of, with phosgene)

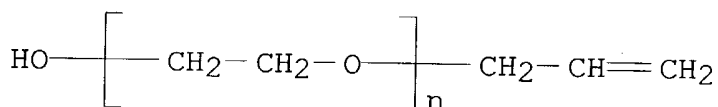
RN 9042-19-7 HCA

CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha$ -2-propenyl- $\omega$ -hydroxy- (9CI) (CA INDEX NAME)



RN 27274-31-3 HCA

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -2-propenyl- $\omega$ -hydroxy- (9CI) (CA INDEX NAME)



IC C07C; C08G

CC 39-2 (Textiles)

IT 9042-19-7 27274-31-3 34521-05-6 57759-30-5  
(reaction of, with phosgene)

=> d 169 1-11 cbib abs hitstr hitind

L69 ANSWER 1 OF 11 HCA COPYRIGHT 2004 ACS on STN

133:75669 Bis-poly(ethylene oxide) **surfactants** for use as antistats in photographic coatings and their preparation. Pitt, Alan Robert; Wear, Trevor John (Eastman Kodak Company, USA). PCT Int. Appl. WO 2000037440 A1 20000629, 24 pp. DESIGNATED STATES: W: JP, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1999-GB4252 19991214. PRIORITY: GB 1998-27982 19981219.

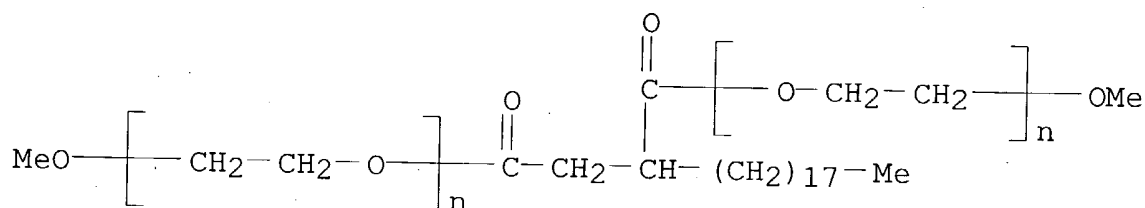
AB Title fluorine-(un)substituted alkyl or alkenyl poly(ethylene oxide) **surfactant**  $R'(OCH_2CH_2)_pOOCCH_2CH(LR)COO(CH_2CH_2O)_qR'$  ( $R = C_{10-20}$  alkyl,  $C_{10-20}$  alkenyl or fluoroalkyl;  $R' = C_{1-4}$  alkyl;  $L =$  linking atom or chem. bond;  $p \geq 2$ ;  $q \geq 2$  and  $p + q = 4-100$ ) is prepd. either by reacting maleic anhydride with a poly(ethylene glycol) monoalkyl ether (e.g., poly(ethylene glycol) Me ether) and then reacting the resultant intermediate with a compd.  $RL'H$  ( $L' =$  linking group or linking atom), or by reacting  $RL$ -substituted a succinic anhydride with an polyethylene glycol monoalkyl ether. The **surfactants** exhibit good soly. and surface activity and are useful as antistats, particularly in gelatin media, in photog. coatings.

IT 278782-97-1P

(prepn. of bis-poly(ethylene oxide) **surfactants** for use as antistats in photog. coatings)

RN 278782-97-1 HCA

CN Poly(oxy-1,2-ethanediyl),  $\alpha, \alpha'$ -(2-octadecyl-1,4-dioxo-1,4-butanediyl)bis[ $\omega$ -methoxy- (9CI) (CA INDEX NAME)]

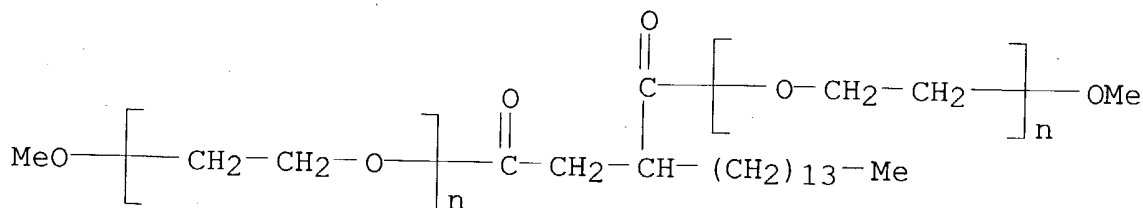


IT 278783-00-9 278784-62-6

(prepn. of bis-poly(ethylene oxide) **surfactants** for use as antistats in photog. coatings)

RN 278783-00-9 HCA

CN Poly(oxy-1,2-ethanediyl),  $\alpha, \alpha'$ -(1,4-dioxo-2-tetradecyl-1,4-butanediyl)bis[ $\omega$ -methoxy- (9CI) (CA INDEX NAME)]



RN 278784-62-6 HCA

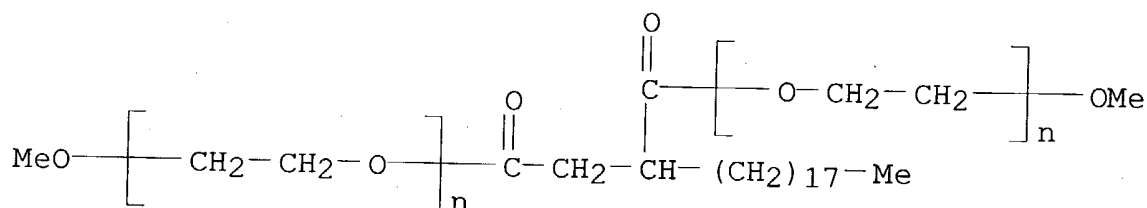
CN Poly(oxy-1,2-ethanediyl),  $\alpha, \alpha'$ -[2-(octadecenyl)-1,4-dioxo-1,4-butanediyl]bis[ $\omega$ -methoxy- (9CI) (CA INDEX NAME)]

CM 1

CRN 278782-97-1

CMF (C2 H4 O)<sub>n</sub> (C2 H4 O)<sub>n</sub> C24 H46 O4

CCI PMS



- IC ICM C07C323-52  
ICS C07C069-34; C07C069-63; G03C001-00
- CC 46-4 (Surface Active Agents and Detergents)  
Section cross-reference(s): 74
- ST bispolyoxyethylene ether **surfactant** antistat photog  
coating; maleic anhydride polyethylene glycol ether reaction;  
succinic anhydride substituted polyethylene glycol monoalkyl ether  
reaction
- IT Polyoxyalkylenes, uses  
(carboxylated; prepn. of bis-poly(ethylene oxide)  
**surfactants** for use as antistats in photog. coatings)
- IT **Surfactants**  
(nonionic; prepn. of bis-poly(ethylene oxide) **surfactants**  
for use as antistats in photog. coatings)
- IT Antistatic agents  
Photographic emulsions  
Photographic films  
(prepn. of bis-poly(ethylene oxide) **surfactants** for use  
as antistats in photog. coatings)
- IT Gelatins, miscellaneous  
(prepn. of bis-poly(ethylene oxide) **surfactants** for use  
as antistats in photog. coatings)
- IT 113547-46-9P  
(prepn. of bis-poly(ethylene oxide) **surfactants** for use  
as antistats in photog. coatings)
- IT 278782-96-0P **278782-97-1P**  
(prepn. of bis-poly(ethylene oxide) **surfactants** for use  
as antistats in photog. coatings)
- IT 108-31-6, Maleic anhydride, reactions 9004-74-4 34451-26-8,  
Foralkyl EM 6 47458-32-2  
(prepn. of bis-poly(ethylene oxide) **surfactants** for use  
as antistats in photog. coatings)
- IT 278782-98-2 278782-99-3 **278783-00-9 278784-62-6**  
(prepn. of bis-poly(ethylene oxide) **surfactants** for use  
as antistats in photog. coatings)

L69 ANSWER 2 OF 11 HCA COPYRIGHT 2004 ACS on STN

131:291670 Micellization of hydroxyl-containing derivatives of hexylenesuccinic acid. Makhkamov, R. R. (Inst. Obshch. Neorg. Khim., AN RUz, Uzbekistan). O'zbekiston Kimyo Jurnalı (3), 19-22 (Russian) 1999. CODEN: OKJZA6. ISSN: 0042-1707. Publisher: Izdatel'stvo Fan.

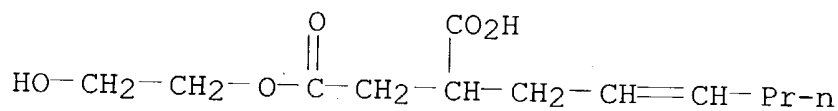
AB The influence of the structure of the hydroxyl-contg. substituents of hexylenesuccinic acid deriv. **surfactants** on the micelle forming properties has been studied. Correlation between the micelle formation and the hydrophilic-lipophilic equil. is found. The thermodyn. parameters of micellization have been detd. The changes in the entropy of micellization exert the greatest influence over the energy of micellization.

IT 246512-86-7 246512-87-8 246512-88-9  
246512-89-0

(micellization of hydroxyl-contg. derivs. of hexylenesuccinic acid)

RN 246512-86-7 HCA

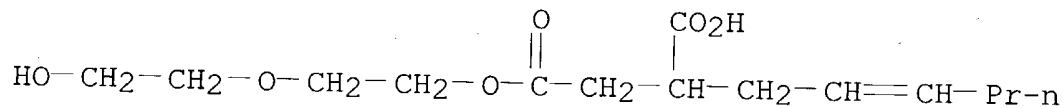
CN Butanedioic acid, 2-hexenyl-, 4-(2-hydroxyethyl) ester, monopotassium salt (9CI) (CA INDEX NAME)



● K

RN 246512-87-8 HCA

CN Butanedioic acid, 2-hexenyl-, 4-[2-(2-hydroxyethoxy)ethyl] ester, monopotassium salt (9CI) (CA INDEX NAME)

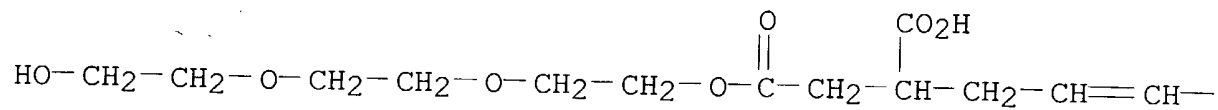


● K

RN 246512-88-9 HCA

CN Butanedioic acid, 2-hexenyl-, 4-[2-[2-(2-hydroxyethoxy)ethoxy]ethyl] ester, monopotassium salt (9CI) (CA INDEX NAME)

PAGE 1-A



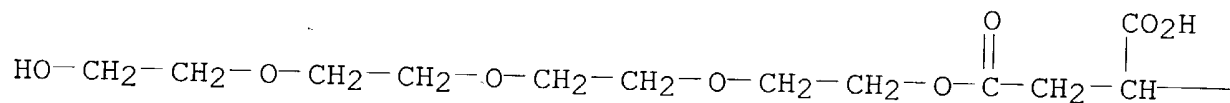
● K

PAGE 1-B

—Pr-n

RN 246512-89-0 HCA  
 CN Butanedioic acid, 2-hexenyl-, 4-[2-[2-[2-(2-hydroxyethoxy)ethoxy]ethoxy]ethyl] ester, monopotassium salt (9CI)  
 (CA INDEX NAME)

PAGE 1-A



● K

PAGE 1-B

—CH<sub>2</sub>—CH=CH—Pr-n

CC 66-2 (Surface Chemistry and Colloids)  
 Section cross-reference(s): 46, 69  
 IT **Surfactants**  
 (nonionic; micellization of hydroxyl-contg. derivs. of  
 hexylenesuccinic acid)

IT 246512-86-7 246512-87-8 246512-88-9  
 246512-89-0 246517-59-9 246519-20-0 246519-21-1  
 246519-22-2  
 (micellization of hydroxyl-contg. derivs. of hexylenesuccinic acid)

L69 ANSWER 3 OF 11 HCA COPYRIGHT 2004 ACS on STN

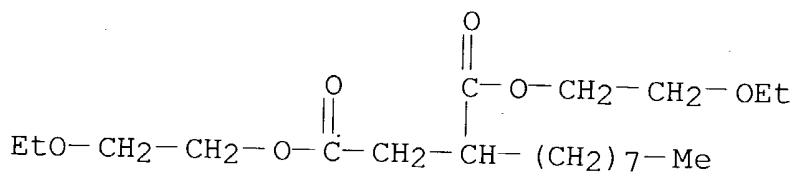
129:43183 Preparation of polyalkenylsuccinimides and polyalkylene amines as **dispersants** and deposit inhibitors for diesel fuel. Henly, Timothy J.; Malfer, Dennis J. (Ethyl Corp., USA). U.S. US 5752989 A 19980519, 12 pp. (English). CODEN: USXXAM. APPLICATION: US 1996-754458 19961121.

AB **Dispersants** and deposit inhibitors for diesel fuels consist of the additives, composed of polyalkenyl succinimides and polyalkyleneamines, and an oxygen-contg. carrier selected from a polyalkoxylated ether, phenol, ester, or amine. The polyalkenyl succinimides are prepd. by reaction of a polyamine with a polyalkenyl succinic anhydride, in which the C40-300-polyalkenyl substituent has a mol. wt. of 600-3000. The polyalkyleneamines are of general formula  $RNH(CH_2CHR_2NH)_nR_3$  ( $R_2 = H$  and C1-6-alkyl; R is a polyalkenyl radical with no. av. mol. wt. 600-3000;  $R_3 = H$  or polyalkenyl radical with no. av. mol. wt. 600-3000; and  $n = 1-6$ ).

IT 208346-53-6P  
 (additives contg.; prepn. of polyalkenylsuccinimides and polyalkylene amines as **dispersants** and deposit inhibitors for diesel fuel)

RN 208346-53-6 HCA

CN Butanedioic acid, octyl-, bis(2-ethoxyethyl) ester (9CI) (CA INDEX NAME)



IC ICM C10L001-22

ICS C10L001-18

NCL 044347000

CC 51-9 (Fossil Fuels, Derivatives, and Related Products)

ST diesel fuel **dispersant** deposit inhibitor; polyalkenyl succinimide diesel fuel **dispersant**; polyalkylenepolyamine diesel fuel **dispersant**; polyoxyalkylene diesel fuel **dispersant**; phenol polyoxyalkylated diesel fuel **dispersant**

IT Alcohols, uses

(C13, propoxylated, additives contg.; prepn. of

- polyalkenylsuccinimides and polyalkylene amines as **dispersants** and deposit inhibitors for diesel fuel)
- IT Polyoxyalkylenes, uses  
(Ph group-terminated, additives contg.; prepn. of polyalkenylsuccinimides and polyalkylene amines as **dispersants** and deposit inhibitors for diesel fuel)
- IT Amines, uses  
Esters, uses  
(alkoxylated, additives contg.; prepn. of polyalkenylsuccinimides and polyalkylene amines as **dispersants** and deposit inhibitors for diesel fuel)
- IT Polyoxyalkylenes, uses  
(alkyl group-terminated, additives contg.; prepn. of polyalkenylsuccinimides and polyalkylene amines as **dispersants** and deposit inhibitors for diesel fuel)
- IT Polyoxyalkylenes, uses  
(esters, additives contg.; prepn. of polyalkenylsuccinimides and polyalkylene amines as **dispersants** and deposit inhibitors for diesel fuel)
- IT Polyamines  
(polyalkylene-, polyalkenyl-terminated, additives contg.; prepn. of polyalkenylsuccinimides and polyalkylene amines as **dispersants** and deposit inhibitors for diesel fuel)
- IT Polyamines  
(polyalkylene-, reaction products, with polyalkenylsuccinic anhydride, additives contg.; prepn. of polyalkenylsuccinimides and polyalkylene amines as **dispersants** and deposit inhibitors for diesel fuel)
- IT Diesel fuel additives  
(prepn. of polyalkenylsuccinimides and polyalkylene amines as **dispersants** and deposit inhibitors for diesel fuel)
- IT 108-95-2DP, Phenol, alkoxylated, uses 110-15-6DP, Succinic acid, polyisobutenyl derivs., reaction products with polyamines 112-57-2DP, Tetraethylenepentamine, reaction products with polyisobutenylsuccinic anhydride 9003-27-4DP, Polyisobutene, aminated **208346-53-6P**  
(additives contg.; prepn. of polyalkenylsuccinimides and polyalkylene amines as **dispersants** and deposit inhibitors for diesel fuel)

L69 ANSWER 4 OF 11 HCA COPYRIGHT 2004 ACS on STN

121:117312 Cosmetic composition containing succinic acid esters.

Rawlings, Anthony Vincent; Rossall, Brian (Unilever PLC, UK;

Unilever N. V.). PCT Int. Appl. WO 9410971 A1 19940526, 30 pp.

DESIGNATED STATES: W: AT, AU, BB, BG, BR, BY, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, UZ, VN; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE,



NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1993-EP3095 19931104. PRIORITY: GB 1992-23578 19921111.

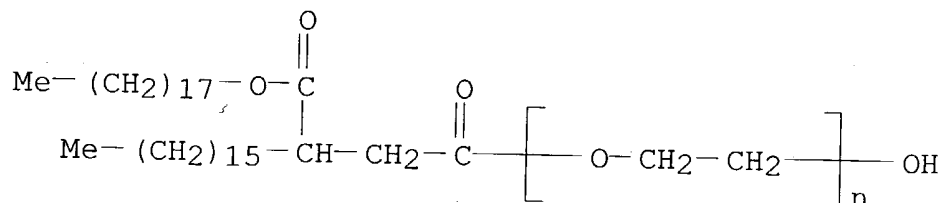
AB A compn. for topical application to skin, hair or nails comprises: (i) an effective amt. of a succinic acid ester having a lipid-like structure, (ii) a cosmetically acceptable vehicle. A skin lotion contained the succinic acid ester [C<sub>22</sub>H<sub>43</sub>OC(O)CH(CH:CHC<sub>14</sub>H<sub>29</sub>)CH<sub>2</sub>C(O)(OC<sub>2</sub>H<sub>4</sub>)<sub>4</sub>-5EOOH] 0.08, EtOH 10, perfume 0.5, and water to 100% wt./wt.

IT 153311-81-0 153311-82-1 156944-61-5  
156944-62-6 156944-63-7

(cosmetic compns. contg.)

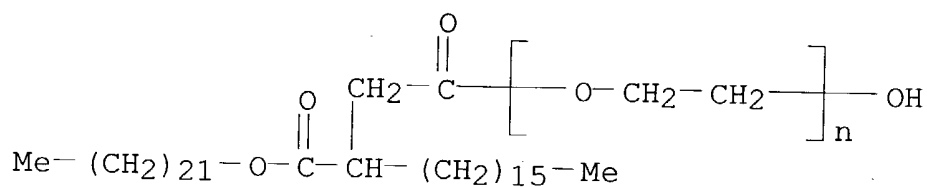
RN 153311-81-0 HCA

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -[3-[(octadecyloxy)carbonyl]-1-oxononadecyl]- $\omega$ -hydroxy- (9CI) (CA INDEX NAME)



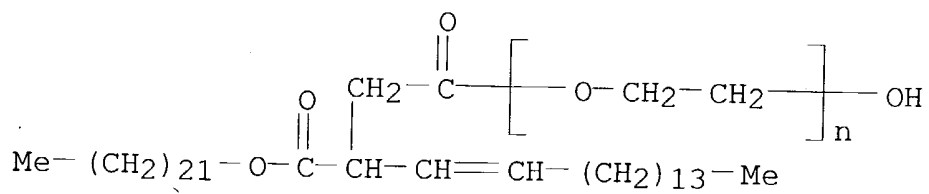
RN 153311-82-1 HCA

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -[3-[(docosyloxy)carbonyl]-1-oxononadecyl]- $\omega$ -hydroxy- (9CI) (CA INDEX NAME)



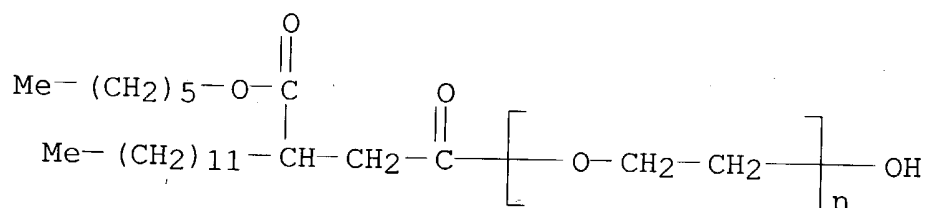
RN 156944-61-5 HCA

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -[3-[(docosyloxy)carbonyl]-1-oxo-4-nonadecenyl]- $\omega$ -hydroxy- (9CI) (CA INDEX NAME)



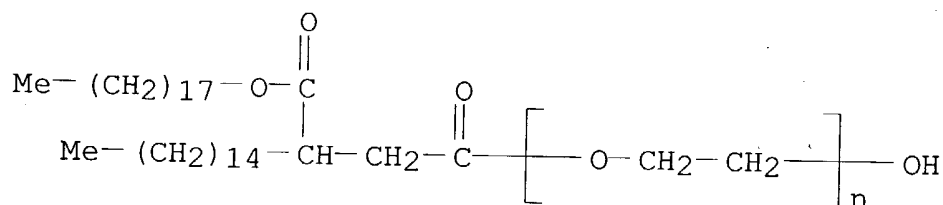
RN 156944-62-6 HCA

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -[3-[(hexyloxy)carbonyl]-1-oxopentadecyl]- $\omega$ -hydroxy- (9CI) (CA INDEX NAME)



RN 156944-63-7 HCA

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -[3-[(octadecyloxy)carbonyl]-1-oxooctadecyl]- $\omega$ -hydroxy- (9CI) (CA INDEX NAME)



IC ICM A61K007-48

ICS A61K007-06

CC 62-1 (Essential Oils and Cosmetics)

IT **Surfactants**

Ceramides

Siloxanes and Silicones, biological studies

(cosmetic compns. contg. succinic acid esters and)

IT 110-15-6D, Butanedioic acid, esters **153311-81-0**

**153311-82-1 156944-61-5 156944-62-6**

**156944-63-7**

(cosmetic compns. contg.)

L69 ANSWER 5 OF 11 HCA COPYRIGHT 2004 ACS on STN

119:252585 Synthesis of hydroxyl-containing esters of hexylenesuccinic acid and their effect on surface tension at a mercury-solution interface. Mahcamov, R. R.; Siragiddinova, D. S.; Aminov, S. N. A.; Moortazayva, G. A. (Inst. Khim., Uzbekistan). *Uzbekskii Khimicheskii Zhurnal* (3-4), 27-30 (Russian) 1992. CODEN: UZKZAC. ISSN: 0042-1707.

AB Novel **surfactants** were prepd. by reacting hexylenesuccinic anhydride with xylitol, mannitol, or triethylene glycol. Adsorption and electrocapillary properties of the obtained esters were studied on the aq. NH<sub>4</sub>Cl soln.-Hg interface. Thermodyn. parameters of adsorption and the values of interfacial tension for the zero-charge potential of all 3 **surfactants** were compared.

IT 151270-26-7P

(**surfactants**, prepn. and surface tension of, at aq. ammonium chloride soln.-mercury interface)

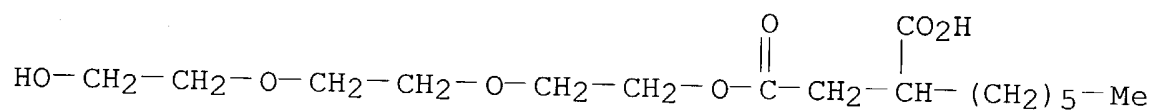
RN 151270-26-7 HCA

CN Butanedioic acid, hexenyl-, 4-[2-[2-(2-hydroxyethoxy)ethoxy]ethyl] ester (9CI) (CA INDEX NAME)

CM 1

CRN 151270-25-6

CMF C16 H30 O7



CC 46-3 (Surface Active Agents and Detergents)

Section cross-reference(s): 66

ST hexylenesuccinic acid ester **surfactant**; xylitol ester  
hexylenesuccinic anhydride **surfactant**; mannitol ester  
hexylenesuccinic anhydride **surfactant**; triglycol ester  
hexylenesuccinic anhydride **surfactant**; mercury interface  
**surfactant** property

IT **Surfactants**

(hydroxyl-contg. esters of hexylenesuccinic acid, prepn. and properties of)

IT Free energy

(of adsorption, of hydroxyl-contg. esters of hexylenesuccinic acid **surfactants**, at aq. ammonium chloride soln.-mercury interface)

IT Esterification

(of hexylenesuccinic anhydride with xylitol or mannitol or triethylene glycol, in **surfactant** prepn.)

IT Electrocapillarity

(of hydroxyl-contg. esters of hexylenesuccinic acid **surfactants**)

IT Adsorption

Surface area

(of hydroxyl-contg. esters of hexylenesuccinic acid **surfactants**, at aq. ammonium chloride soln.-mercury interface)

IT 69-65-8, Mannitol 87-99-0, Xylitol 112-27-6

(esterification of, by hexylenesuccinic anhydride, in **surfactant** prepn.)

IT 151241-38-2P 151241-40-6P 151270-26-7P

(**surfactants**, prepn. and surface tension of, at aq. ammonium chloride soln.-mercury interface)

L69 ANSWER 6 OF 11 HCA COPYRIGHT 2004 ACS on STN

114:124750 Deinking performance of alkenylsuccinic acid-based **surfactants**. Takahashi, Yoshio; Taketomi, Yasuaki (Res. Lab. Dev., Mitsubishi Oil Co., Ltd., Japan). Kami Pa Gikyoshi, 44(11), 1177-82 (Japanese) 1990. CODEN: KAGIAU. ISSN: 0022-815X.

AB Alkenylsuccinic acid-based **surfactants** were synthesized to evaluate their performance in the deinking of waste newsprint. **Surfactants** made by ethoxylating alkenylsuccinic acid monoalkyl ester showed best deinking performance. The optimum degree of brightness was obtained using hexadecenyl- or octadecenylsuccinic acid esters. The mol no. (9-22) of oxyethylene groups in the ethoxylated derivs. did not affect deinking performance significantly. The optimum alkyl ester groups were Me, Et, and iso-Pr.

IT 127149-06-8

(**surfactants**, deinking performance of, for waste newsprint, structure effect on)

RN 127149-06-8 HCA

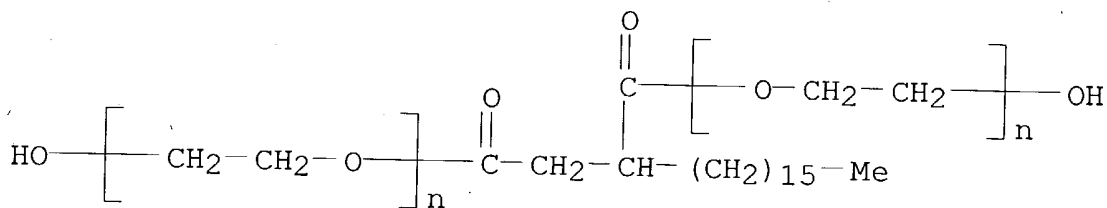
CN Poly(oxy-1,2-ethanediyl),  $\alpha, \alpha'$ -(2-hexadecenyl-1,4-dioxo-1,4-butanediyl)bis[ $\omega$ -hydroxy- (9CI) (CA INDEX NAME)

CM 1

CRN 127149-05-7

CMF (C2 H4 O)<sub>n</sub> (C2 H4 O)<sub>n</sub> C20 H38 O4

CCI PMS



CC 43-6 (Cellulose, Lignin, Paper, and Other Wood Products)

Section cross-reference(s): 46

ST alkenylsuccinic acid deinking performance; **surfactant**  
alkenylsuccinic acid deinking; wastepaper deinking alkenylsuccinic acid; oxyalkylene alkenylsuccinate deinking performance; oxyethylene alkenylsuccinate deinking performance; waste newsprint paper deinking **surfactant**

IT **Surfactants**

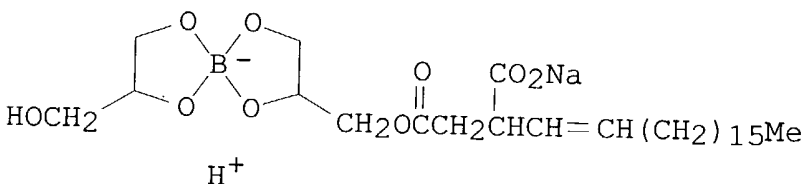
(alkenylsuccinic acid-based, for waste newsprint paper, performance of, structure effect on)

IT Inks

(removal of, from waste newsprint, alkenylsuccinic acid-based

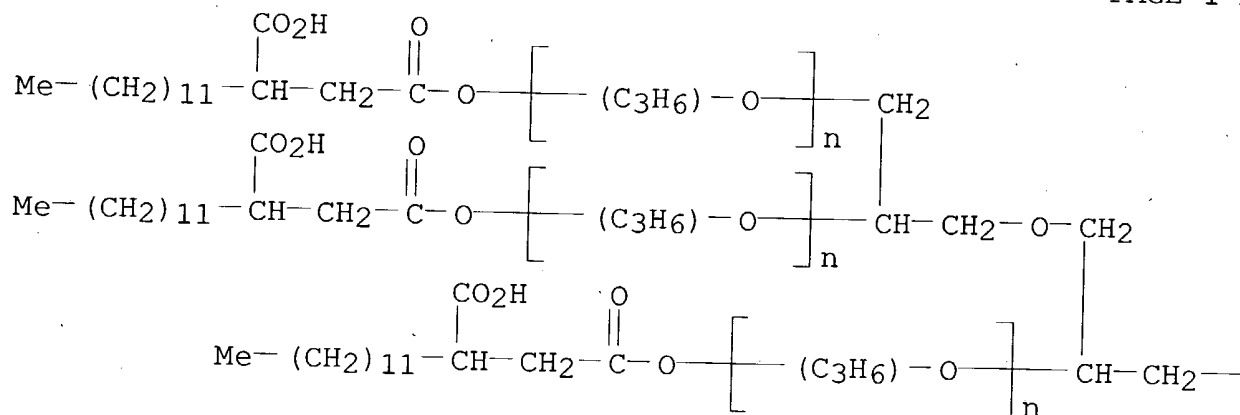
- IT **surfactants** for, performance of)  
 Paper  
 (newsprint, waste, deinking of, alkenylsuccinic acid-based  
**surfactants** for, performance of)  
 IT 64520-74-7 64912-30-7 86481-84-7 103963-95-7 120442-29-7  
 121702-77-0 **127149-06-8** 132562-36-8 132562-37-9  
 132562-38-0 132562-39-1 132562-40-4 132562-41-5 132562-42-6  
 132562-43-7 132562-44-8 132562-45-9 132562-46-0 132562-47-1  
 132564-04-6 132564-05-7 132564-06-8  
 (**surfactants**, deinking performance of, for waste  
 newsprint, structure effect on)

L69 ANSWER 7 OF 11 HCA COPYRIGHT 2004 ACS on STN  
 104:111841 Emulsifying agents. Hamanaka, Hiroyoshi; Shimizu, Ken;  
 Atsumi, Yoshiye (Toho Chemical Industry Co., Ltd., Japan). Jpn.  
 Kokai Tokkyo Koho JP 60161732 A2 19850823 Showa, 12 pp. (Japanese).  
 CODEN: JKXXAF. APPLICATION: JP 1984-14430 19840131.

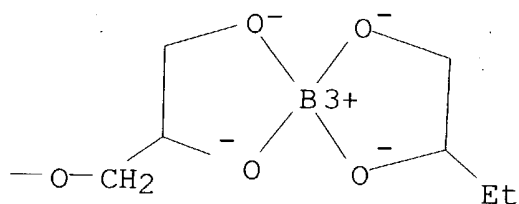


- AB Bis(glycol) borate derivs. are prepd. and used as emulsifying and  
 dispersing agents for polymers, coating materials, cosmetics, etc.  
 Thus, styrene 104.1, Me acrylate 344.2,  $(\text{NH}_4)_2\text{S}_2\text{O}_8$  0.13, water  
 696.2, and glycerol octadecenylsuccinate glycerol borate Na salt (I)  
 15.7 g were heated 5 h at  $75^\circ$  to prep. an emulsion which had  
 particle diam.  $1\ \mu$  and did not sep. after 5 mo at  $40^\circ$ ,  
 whereas an emulsion sep. after 20 days when Na stearate was used.
- IT **100504-52-7**  
 (dispersing agents, for cyanine blue in PVC)
- RN 100504-52-7 HCA
- CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha$ -hydro- $\omega$ -[(3-carboxy-  
 1-oxopentadecyl)oxy]-, ether with hydrogen [1,2-butanediolato(2-)-  
 O,O'][[[(2-hydroxy-1,3-propanediyl)bis(oxy)bis[1,2-propanediolato]](2-  
 )-O1,O2]borate(1-)] (3:1) (9CI) (CA INDEX NAME)

PAGE 1-A

● H<sup>+</sup>

PAGE 1-B



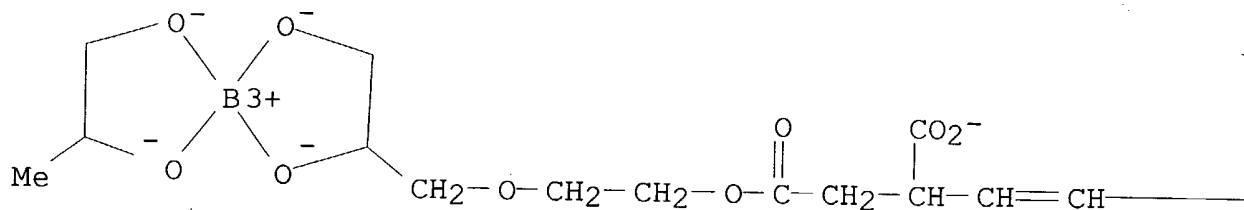
IT 100464-54-8

(emulsifiers, for skin creams)

RN 100464-54-8 HCA

CN Borate(2-), [4-[2-(2,3-dihydroxypropoxy)ethyl] 1-hexadecenylbutanedioato(3-)][1,2-propanediolato(2-)-O,O']-, dihydrogen, (T-4)- (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 H<sup>+</sup>

PAGE 1-B

$$-(\text{CH}_2)_{13}-\text{Me}$$

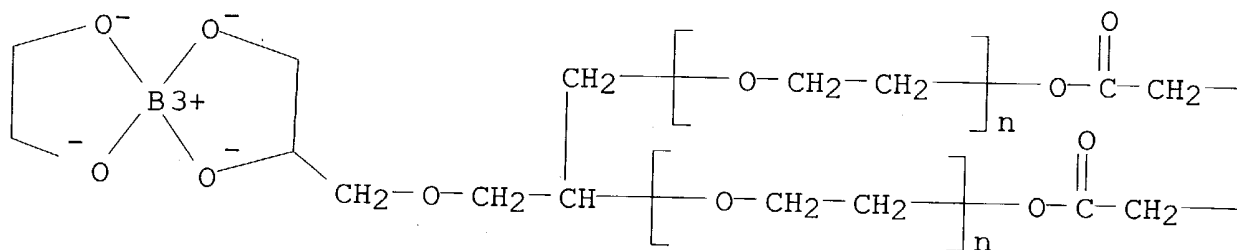
IT 100472-53-5

(emulsifiers, for use in skin creams)

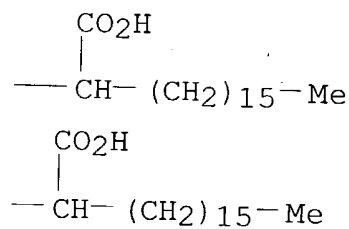
RN 100472-53-5 HCA

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -[(3-carboxy-1-oxononadecyl)oxy]-, ether with hydrogen [ethanediolato(2-)-O,O'][[3,3'-oxybis[1,2-propanediolato]](2-)-O1,O2]borate(1-) (2:1), diammonium salt, (T-4)-(9CI) (CA INDEX NAME)

PAGE 1-A

● H<sup>+</sup>● 2 NH<sub>3</sub>

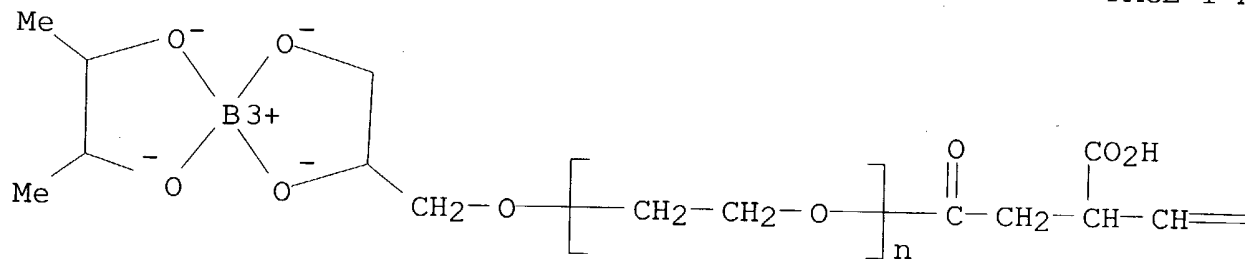
PAGE 1-B



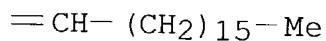
IT 100464-46-8  
 (emulsifiers, for use in skin lotions)  
 RN 100464-46-8 HCA  
 CN Poly(oxy-1,2-ethanediyl), α-(3-carboxy-1-oxo-4-heneicosenyl)-  
 ω-hydroxy-, ether with ammonium [2,3-butanediolato(2-)-  
 O,O'] [1,2,3-propanetriolato(2-)-O1,O2]borate(1-) (1:1), (T-4)- (9CI)  
 (CA INDEX NAME)



PAGE 1-A



PAGE 1-B



- IC ICM B01F017-42  
ICS A61K007-00; A61K047-00; B01F017-52; G11B005-702  
ICA D21H001-38  
CC 46-4 (Surface Active Agents and Detergents)  
Section cross-reference(s): 37, 42, 43, 62, 77  
ST glycerol borate emulsifying agent; vinyl emulsion polymn;  
octadecenylsuccinate glycerol borate **emulsifier** polymn  
IT **100504-52-7**  
(dispersing agents, for cyanine blue in PVC)  
IT 100464-49-1  
(**emulsifier**, for polymn. of Me acrylate with styrene)  
IT 100464-50-4  
(**emulsifier**, for polymn. of Me methacrylate)  
IT 100464-52-6  
(**emulsifier**, for polymn. of styrene)  
IT 100464-51-5  
(**emulsifier**, for polymn. of vinyl acetate)  
IT 100464-57-1 100603-41-6  
(**emulsifier**, for skin creams)  
IT 100464-55-9 100464-56-0 100603-42-7  
(**emulsifier**, for waxes)

- IT 62-73-7 111-01-3  
(**emulsifiers** for)
- IT 12441-09-7D, polyalkylene derivs., borate complexes  
(**emulsifiers**, for insecticides)
- IT 100464-48-0  
(**emulsifiers**, for liq. paraffins)
- IT 91607-97-5  
(**emulsifiers**, for polymn. of Me methacrylate with styrene)
- IT 91607-94-2  
(**emulsifiers**, for polymn. of chlorobutadiene)
- IT 100464-54-8  
(**emulsifiers**, for skin creams)
- IT 100485-11-8  
(**emulsifiers**, for use in aq. hydraulic fluids)
- IT 100472-53-5  
(**emulsifiers**, for use in skin creams)
- IT 100464-46-8  
(**emulsifiers**, for use in skin lotions)
- IT 9003-20-7P 9003-53-6P 9010-98-4P 9011-14-7P 25034-86-0P  
25036-19-5P  
(manuf. of, **emulsifiers** for)
- IT 111-01-3  
(skin creams contg., **emulsifiers** for)

L69 ANSWER 8 OF 11 HCA COPYRIGHT 2004 ACS on STN

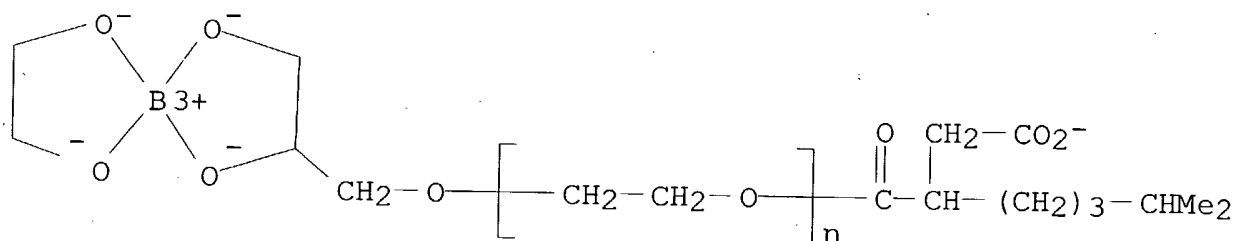
101:130885 Organic boron compounds.. (Toho Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 59020290 A2 19840201 Showa, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1982-128900 19820726.

AB Org. B compds., useful as **surfactants**, were prepd. by condensation of di(polyol) borates having polyvalent alc. residues (adjacent hydroxy groups) with alkyl- or alkenylsuccinic acids, their anhydrides, or esters. Thus, reaction of 192 g di(glycerin) borate with 350.5 g octadecenylsuccinic anhydride 12 h at 100° under N gave glycerin octadecenylsuccinoylglycerin borate.

IT 91649-35-3P 91649-36-4P 91649-37-5P  
91649-38-6P 91677-93-9P 91677-95-1P  
91677-97-3P 91677-98-4P  
(prepn. of, as **surfactants**)

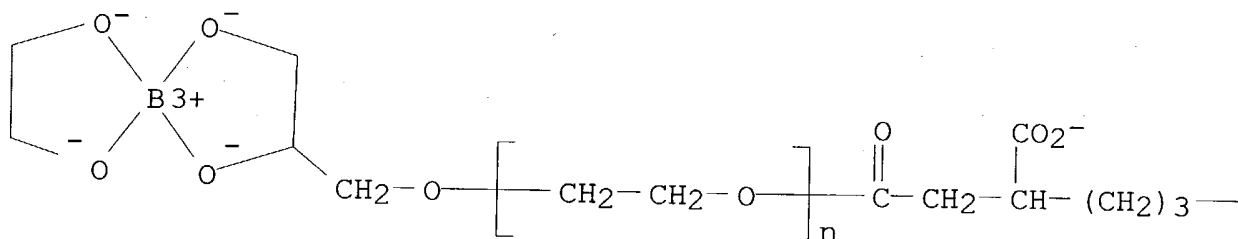
RN 91649-35-3 HCA

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -[2-(carboxymethyl)-6-methyl-1-oxoheptyl]- $\omega$ -hydroxy-, ether with lithium hydrogen [1,2-ethanediolato(2-)-O,O'] [1,2,3-propanetriolato(2-)-O1,O2]borate(2-) (1:1), (T-4)- (9CI) (CA INDEX NAME)

● H<sup>+</sup>● Li<sup>+</sup>

RN 91649-36-4 HCA  
 CN Poly(oxy-1,2-ethanediyl), α-(3-carboxy-7-methyl-1-oxooctyl)-  
 ω-hydroxy-, ether with dihydrogen [1,2-ethanediolato(2-)-  
 O,O'] [1,2,3-propanetriolato(2-)-O1,O2]borate(2-) (1:1), (T-4)- (9CI)  
 (CA INDEX NAME)

PAGE 1-A

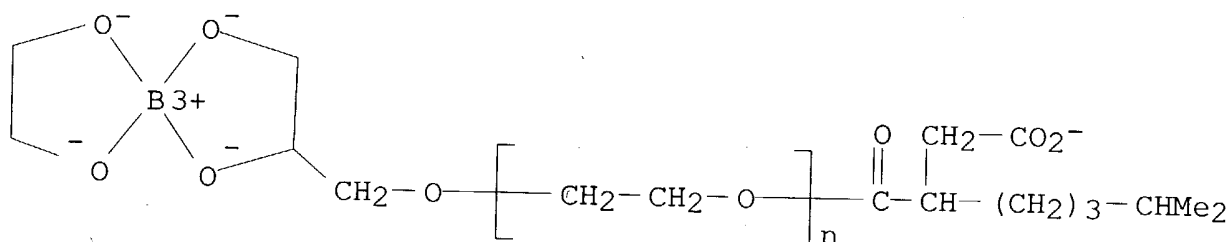
● 2 H<sup>+</sup>

PAGE 1-B

—CHMe<sub>2</sub>

RN 91649-37-5 HCA

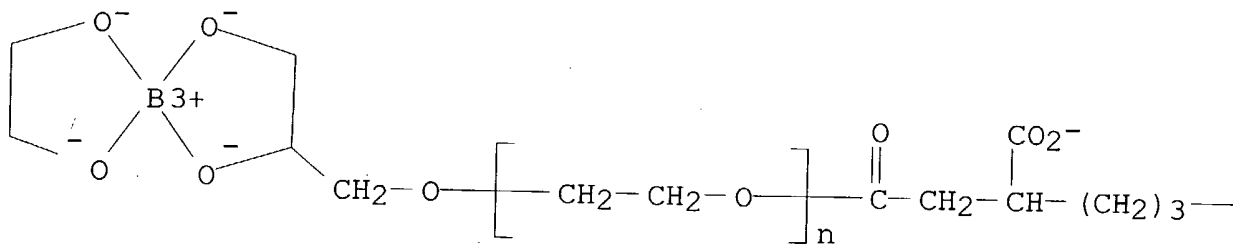
CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -[2-(carboxymethyl)-6-methyl-1-oxoheptyl]- $\omega$ -hydroxy-, ether with dihydrogen [1,2-ethanediolato(2-)-O,O'] [1,2,3-propanetriolato(2-)-O1,O2]borate(2-) (1:1), (T-4)- (9CI) (CA INDEX NAME)

● 2 H<sup>+</sup>

RN 91649-38-6 HCA

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -(3-carboxy-7-methyl-1-oxooctyl)- $\omega$ -hydroxy-, ether with lithium hydrogen [1,2-ethanediolato(2-)-O,O'] [1,2,3-propanetriolato(2-)-O1,O2]borate(2-) (1:1), (T-4)- (9CI) (CA INDEX NAME)

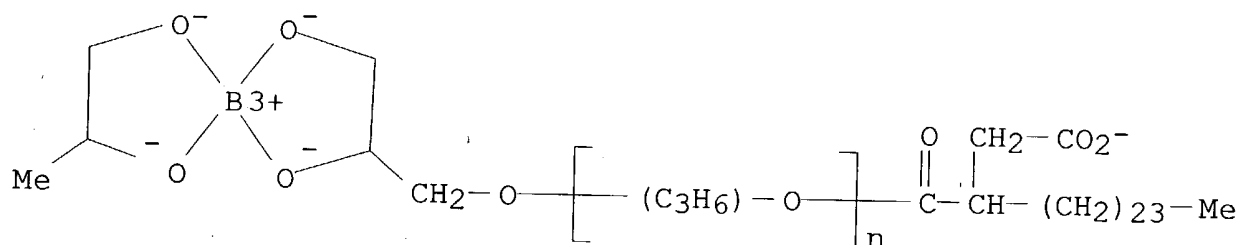
PAGE 1-A

● H<sup>+</sup>● Li<sup>+</sup>

PAGE 1-B

—CHMe<sub>2</sub>

RN 91677-93-9 HCA  
 CN Poly[oxy(methyl-1,2-ethanediyl)], α-[2-(carboxymethyl)-1-oxohexacosyl]-ω-hydroxy-, ether with dihydrogen [1,2-propanediolato(2-)-O,O'] [1,2,3-propanetriolato(2-)-O1,O2]borate(2-) (1:1) (9CI) (CA INDEX NAME)

● 2 H<sup>+</sup>

RN 91677-95-1 HCA

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -hydroxy, ether with  
 dihydrogen bis[1,2,3-propanetriolato(2-)-O1,O2]borate(2-) (2:1),  
 mono(4-hydrogen tetracosenylbutanedioate) (9CI) (CA INDEX NAME)

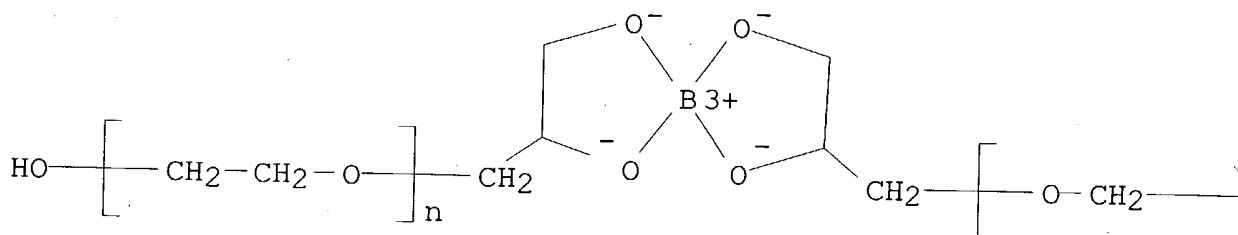
CM 1

CRN 91677-94-0

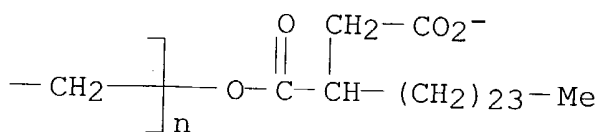
CMF (C2 H4 O)n (C2 H4 O)n C34 H63 B O9

CCI CCS, PMS

PAGE 1-A



PAGE 1-B



RN 91677-97-3 HCA  
 CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -hydroxy-, ether with dihydrogen bis[1,2,3-propanetriolato(2-)-O1,O2]borate(2-) (2:1), mono(1-hydrogen tetracosenylbutanedioate) (9CI) (CA INDEX NAME)

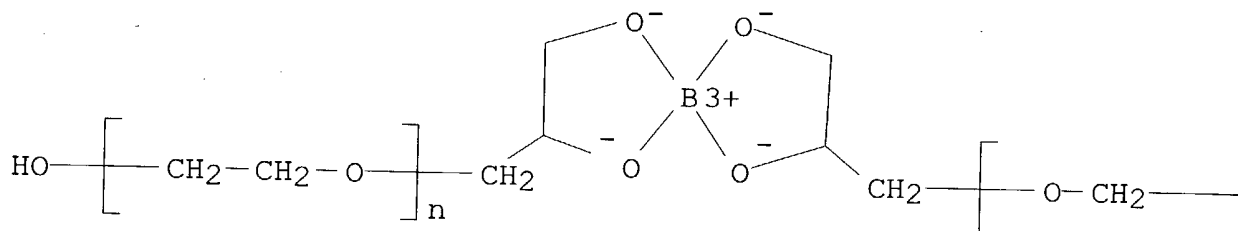
CM 1

CRN 91677-96-2

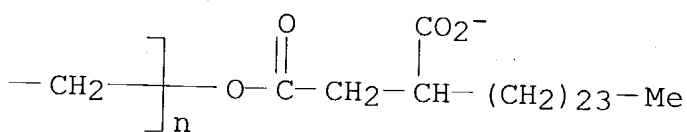
CMF (C2 H4 O)<sub>n</sub> (C2 H4 O)<sub>n</sub> C34 H63 B O9

CCI CCS, PMS

PAGE 1-A

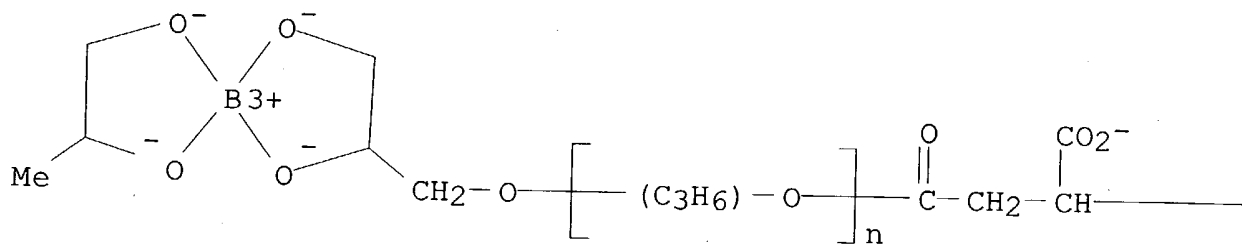


PAGE 1-B



RN 91677-98-4 HCA  
 CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha$ -(3-carboxy-1-oxoheptacosyl)- $\omega$ -hydroxy-, ether with dihydrogen [1,2-propanediolato(2-)-O,O'] [1,2,3-propanetriolato(2-)-O1,O2]borate(2-) (1:1) (9CI) (CA INDEX NAME)

PAGE 1-A

● 2 H<sup>+</sup>

PAGE 1-B

— (CH<sub>2</sub>)<sub>23</sub>—Me

- IC C07F005-04  
 CC 29-4 (Organometallic and Organometalloidal Compounds)  
 Section cross-reference(s): 46  
 ST acylation polyol borate; borate condensation alkylsuccinic anhydride; borate condensation alkenylsuccinic anhydride; **surfactant** polyol borate succinate  
 IT **Surfactants**  
 (polyol borate alkenyl- and alkylsuccinates, prepn. of)  
 IT 50-70-4DP, propoxylated, boron complexes, reaction products with isohexenylsuccinic anhydride 7440-42-8DP, dipolyol polyalkylene oxide alkyl- and alkenylsuccinate ester complexes 12441-09-7DP, butoxylated and propoxylated, boron complexes, reaction products with isotetracosyl- and tetradecenylsuccinic anhydride 33806-58-5DP, reaction products with sorbitan diglycerin borate 41375-88-6DP, reaction products with di(diglycerin) borate ethylene oxide adduct 56090-54-1DP, ethoxylated, propoxylated, boron complexes, reaction products with isotetracosenylsuccinic anhydride 59113-36-9DP, ethoxylated, boron complexes, reaction products with isooctadecyl-, octenyl-, and tetradecenylsuccinic anhydride 71536-19-1DP, reaction products with di(triglycerin) borate ethylene oxide-propylene oxide adduct 91607-94-2P 91607-95-3P



91607-96-4P 91607-97-5P 91607-98-6P 91607-99-7P 91608-00-3P  
91608-01-4P 91608-02-5P 91608-03-6P 91608-04-7P 91608-05-8P  
91608-06-9P 91649-33-1P 91649-34-2P **91649-35-3P**  
**91649-36-4P 91649-37-5P 91649-38-6P**  
91649-39-7P 91650-52-1DP, reaction products with di(sorbitan)  
borate ethylene oxide-butylene oxide adduct 91650-62-3DP, reaction  
products with di(sorbitol) propylene oxide adduct 91650-80-5P  
91650-81-6P 91650-82-7P 91668-10-9P 91668-12-1P 91668-14-3P  
91668-16-5P 91668-18-7P 91668-20-1P 91675-74-0P  
**91677-93-9P 91677-95-1P 91677-97-3P**  
**91677-98-4P** 91739-79-6P 91739-81-0P 91739-83-2P  
91739-84-3P 91739-85-4P 91739-87-6P 91739-88-7P 91740-67-9P  
91824-87-2P 91837-69-3P 91839-67-7P 91839-68-8P 91839-69-9P  
91839-70-2P 91926-13-5P 91926-54-4P  
(prepn. of, as **surfactants**)

L69 ANSWER 9 OF 11 HCA COPYRIGHT 2004 ACS on STN

83:11182 Nonionic monomeric emulsion stabilizers. Samour, Carlos M.;  
Richards, Mildred Cutter (Kendall Co., USA). Brit. GB 1379335  
19750102, 9 pp. (English). CODEN: BRXXAA. APPLICATION: GB  
1973-34496 19730719.

AB Nonionic compds. contg. an ethylenically unsatd., a lipophilic, and  
a polyethyleneoxy group were manufd. which gave polymeric emulsions  
with mech. and freeze-thaw stability, increased particle size, and  
stability to electrolytes, when added in small amts. to aq.  
monomeric compns. Thus, a mixt. of succinic anhydride 10, Igepal  
CO-880 154, and KOAc 6.6 g in 200 ml EtOAc was kept 12 hr at  
80°, 14.2 g glycidyl methacrylate was added and after 7 hr at  
80° p-C<sub>9</sub>H<sub>19</sub>C<sub>6</sub>H<sub>4</sub>O[(CH<sub>2</sub>)<sub>20</sub>]30CO(CH<sub>2</sub>)<sub>2</sub>CO<sub>2</sub>CH<sub>2</sub>CH(OH)CH<sub>2</sub>COCMe:CH<sub>2</sub>(I  
) was obtained in 72% yield. Aq. redox emulsion polymn. of Et  
acrylate 13.4, 2-ethylhexyl acrylate 75.2, acrylonitrile 4.1 g, and  
7.2 g of amidated maleic anhydride in the presence of 8.0 g I gave  
90% conversion to polymer after 11 min.

IT **56619-64-8P**  
(manuf. of, as **emulsifier** for suspension polymn. of  
alkenes)

RN 56619-64-8 HCA

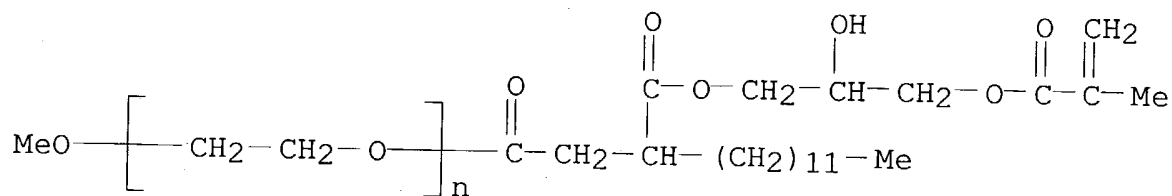
CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -[3-(dodecenyl)-4-[2-hydroxy-3-[(2-  
methyl-1-oxo-2-propenyl)oxy]propoxy]-1,4-dioxobutyl]- $\omega$ -methoxy-  
(9CI) (CA INDEX NAME)

CM 1

CRN 56619-63-7

CMF (C<sub>2</sub> H<sub>4</sub> O)<sub>n</sub> C<sub>24</sub> H<sub>42</sub> O<sub>7</sub>

CCI PMS

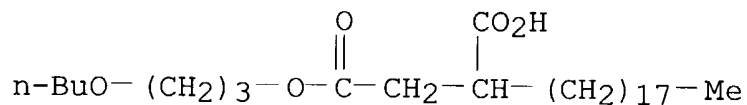


- IC C08G  
 CC 35-3 (Synthetic High Polymers)  
 Section cross-reference(s): 48  
 ST nonionic **surfactant** emulsion polymn; polyethyleneoxy  
**surfactant** emulsion polymn; glycidyl methacrylic  
**surfactant** polymn; succinic **surfactant** emulsion  
 polymn; polyglycol **surfactant** emulsion polymn  
 IT Polymerization  
 (emulsion, nonionic **surfactants** for stabilization of)  
 IT **Surfactants**  
 (nonionic emulsion stabilizers, for polymn. of alkenes)  
 IT Poly(oxy-1,2-ethanediyl),  $\alpha$ -[4-[2-hydroxy-3-[(2-methyl-1-oxo-2-  
 propenyl)oxy]propoxy]-1,4-dioxobutyl]- $\omega$ -hydroxy-, alkyl  
 (C11-15) ethers  
 (manuf. of, as **emulsifier** for suspension polymn. of  
 alkenes)  
 IT 55512-58-8P 55911-90-5P 56619-64-8P  
 (manuf. of, as **emulsifier** for suspension polymn. of  
 alkenes)  
 L69 ANSWER 10 OF 11 HCA COPYRIGHT 2004 ACS on STN  
 74:8355 Additive dispersions for photographic emulsions. (Agfa-Gevaert  
 A.-G.). Fr. Demande FR 2006109 19691219, 19 pp. (French). CODEN:  
 FRXXBL. PRIORITY: DE 19680411.  
 AB Crystn. of additives such as color formers, uv absorbers, optical  
 brighteners, or stabilizers, also of dyes produced during color  
 development, can result in such defects as impaired photographic  
 properties and (or) loss of color brilliance. To avoid crystn. the  
 compds. are dispersed in the coating solns. with the aid of a  
 branched-chain carboxylic acid contg.  $\geq 1$  C5-18 alkyl group,  
 with substituents such as OH, alkoxy, CO<sub>2</sub>H, or substituted amino  
 groups, as **emulsifiers** which are not pptd. in an alk.  
 medium. An example is the compd. RCH(CO<sub>2</sub>H)CH<sub>2</sub>CO<sub>2</sub>Bu, where R =  
 1,1,3,5-tetramethyl-2-octenyl. A color former may be added with  
 30-100% **emulsifier** in org. solvent soln. (CH<sub>2</sub>Cl<sub>2</sub>, EtOAc)  
 for dispersion to the coating mixt. contg. binder (gelatin) and  
 other ingredients, or, if hydrophilic, in aq. alk. soln. to the  
 acidified coating soln. so as to produce a pH of 6.2-6.5.  
 IT 30384-01-1

(coating aid, for photographic emulsions)

RN 30384-01-1 HCA

CN Succinic acid, octadecyl-, 4-(3-butoxypropyl) ester (8CI) (CA INDEX NAME)



IC G03C

CC 74 (Radiation Chemistry, Photochemistry, and Photographic Processes)

IT 29658-97-7 30028-70-7 30346-39-5 30346-41-9 **30384-01-1**  
32672-66-5

(coating aid, for photographic emulsions)

L69 ANSWER 11 OF 11 HCA COPYRIGHT 2004 ACS on STN

59:35175 Original Reference No. 59:6249h,6250a Derivatives of isohexadecenylsuccinic acids. Smirnov, O. K.; Levi, S. M.; Demina, S. G.; Kochneva, S. N. Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii, 8(3), 165-6 (Unavailable) 1963. CODEN: ZNPFAG. ISSN: 0044-4561.

AB The dimer of 2-ethylhex-1-ene was investigated as an olefin-contg. standard raw material for the production of **wetting agents**, viz., derivatives of alkenylsuccinic acids. The dimer was obtained by treating 2-ethylhex-1-ene with H<sub>2</sub>SO<sub>4</sub>. Infrared spectrography showed that the dimer is a mixt. of isomers of isohexadecylene contg. up to 70% olefins with the grouping CH:CH<sub>2</sub>, which can react with maleic anhydride to form anhydrides of isohexadecenylsuccinic acids. The adsorption properties of the mixt. were those expected for hydrocarbons with a chain length of C<sub>12</sub>-C<sub>15</sub>. The dimers were high-quality raw material for **wetting agents** used in the film industry. 6 references.

IT **101748-07-6**, Succinic acid, (14-methylpentadecenyl)-, 1-(2-methoxyethyl) ester, K salt  
(prepn. of)

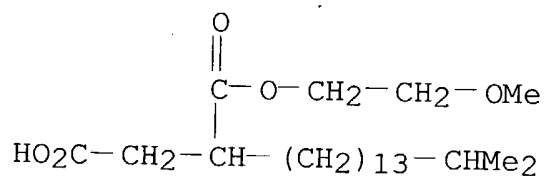
RN 101748-07-6 HCA

CN Succinic acid, (14-methylpentadecenyl)-, 1-(2-methoxyethyl) ester, potassium salt (7CI) (CA INDEX NAME)

CM 1

CRN 101748-06-5

CMF C23 H44 O5



CC 33 (Aliphatic Compounds)

IT 13086-06-1, 2-Hexen-4-ynedioic acid, dimethyl ester 87383-51-5,  
 Acrylic acid, 3,3'-oxydi-, dimethyl ester 99787-93-6, Succinic  
 anhydride, (14-methylpentadecenyl)- 99787-99-2, Succinic acid,  
 (14-methylpentadecenyl)-, disodium salt **101748-07-6**,  
 Succinic acid, (14-methylpentadecenyl)-, 1-(2-methoxyethyl) ester, K  
 salt 101837-35-8, Succinic acid, (14-methylpentadecenyl)-,  
 1-(2,3-dihydroxypropyl) ester, K salt 103307-13-7, Succinamic  
 acid, N,N-bis(2-hydroxyethyl)-3-(14-methylpentadecenyl)-, compd.  
 with 2,2'-iminodiethanol  
 (prepn. of)